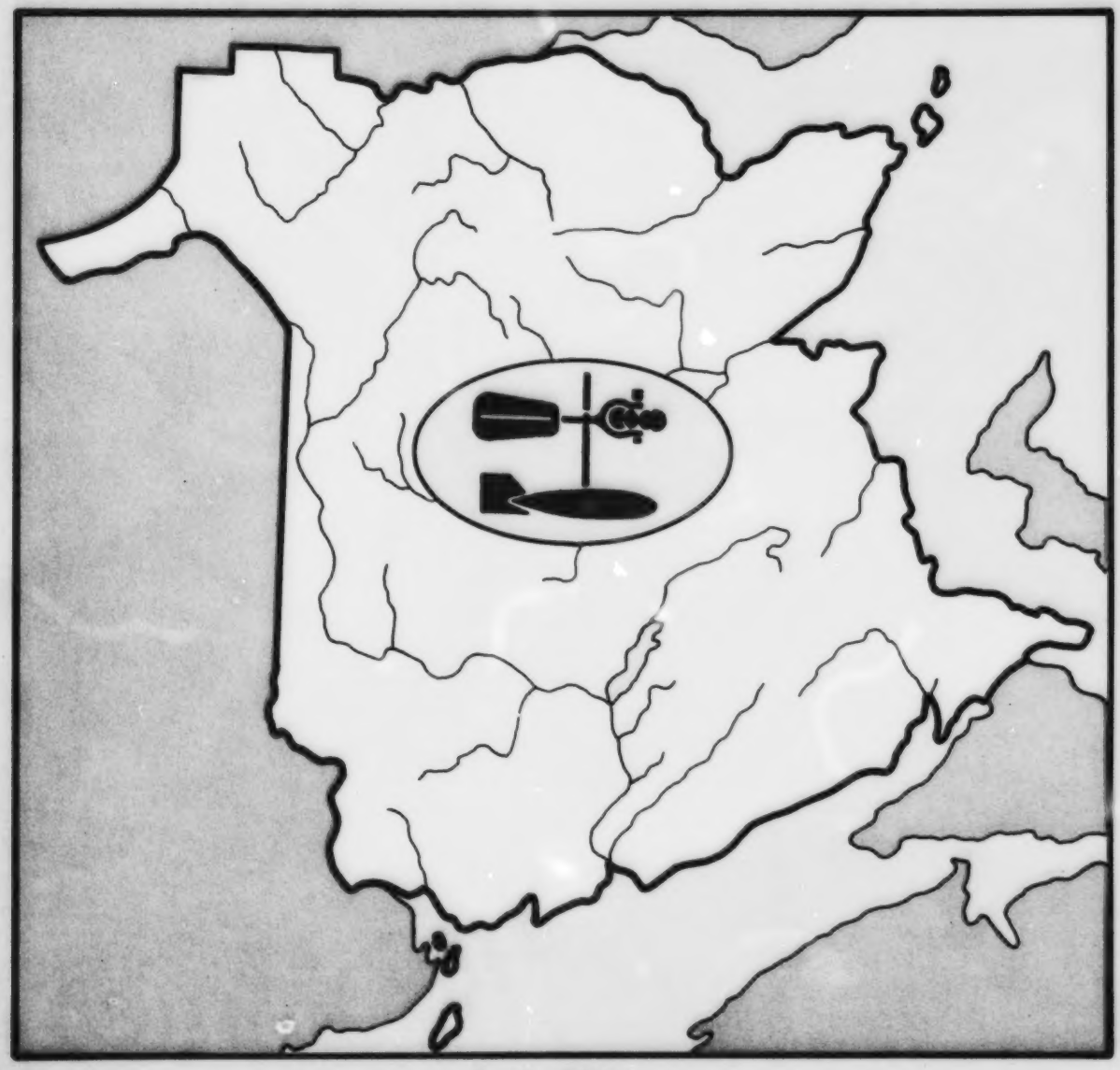
New Brunswick
Hydrometric Network Evaluation

Background Report No. 1
Assessment of User Needs



April 1988

Environment Canada Environnement Canada

New Brunswick Department of Municipal Affairs and Environment Ministère des Affaires Municipales et de L'Environnement du Nouveau-Brunswick

NEW BRUNSWICK HYDROMETRIC NETWORK EVALUATION

BACKGROUND REPORT NO. 1

ASSESSMENT OF USER NEEDS

Environment Canada
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Municipal Affairs and Environment
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ABSTRACT

The New Brunswick Hydrometric Network Evaluation Committee undertook, as part of its review, the examination of uses of network data outputs and interpretation products. It commissioned a user survey, which, in conjunction with other information, provided the background for assessment of hydrometric data user needs. This report summarizes the user needs and provides recommendations.

RÉSUMÉ

Le comité d'évaluation du réseau hydrométrique du Nouveau-Brunswick a entrepris, comme un fonction de sa revue, l'évaluation de l'utilisation des données générées par le réseau et les produits interprétés. Le comité a commissioné un sondage des utilisateurs des données qui, combiné avec d'autres informations, a produit une base pour l'évaluation des besoins des utilisateurs des données hydrométriques. Ce rapport résume ces besoins des utilisateurs des données, et aussi présente des recommendations.

ACKNOWLEDGEMENTS

This report was written by Marc Sheeran. Assistance in the development of the structure of the report and design and implementation of the surveys was provided by Zal Davar, Environment Canada; Brian Burrell, New Brunswick Department of Municipal Affairs and Environment; and Norman Gridley, Porter Dillon Limited. A significant portion of the data compilation for this paper was done by Inland Waters Directorate summer employees Greg Newell and Andrew Kendall. The following people assisted in completing this report by reviewing successive drafts and providing constructive comment: Zal Davar, Don Ambler and Al Perks of Environment Canada; and Brian Burrell of New Brunswick Department of Municipal Affairs and Environment.

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MAJOR RECOMMENDATIONS

1. A Data User Committee, comprising representatives from Environment Canada Water Resources Branch, New Brunswick Department of Municipal Affairs and Environment, Water Resource Planning Branch, and principal hydrometric data users, should be established to hold a series of round table discussions to more accurately determine data users' needs on a station by station basis, as well as review recommendations proposed by the N.B. Hydrometric Network Evaluation Committee regarding changes in the network.

   Once established, the Data User Committee should also:
   (a) hold annual meetings to monitor changing user needs and ensure programs are on track;
   (b) produce an annual newsletter for data users providing them with an update on innovations and changes to the network and its data products.

2. Examine the feasibility of increasing station coverage in central New Brunswick.

3. Establish more index stations in representative small watersheds.

4. Improve suspended sediment coverage by monitoring representative river basins.

5. Examine the feasibility of integrating monitoring networks (AES, WQB and WRB) and cross-linking data bases(e.g. precipitation, ice, and flow data) to facilitate data retrieval and analyses.

6. Develop a marketing strategy for Network outputs to broaden the "user base".

7. Conduct a follow up survey in five years time to determine whether user needs have changed and whether any changes in the network may have had an impact on data use. Telephone surveys and personal interviews, though more costly than mail out surveys, produce better results.

1.0 INTRODUCTION

An objective evaluation of the New Brunswick Hydrometric Network has to examine not only its physiographic and hydrologic aspects, but also the principal uses for which the streamflow data are collected. To do this, the New Brunswick Hydrometric Network Evaluation Committee decided to survey users and potential users of hydrometric data to determine:

(1) who actually uses the data generated by the network;
(2) what types and formats of data are used or required;
(3) how frequently are these data used;
(4) whether there are any data redundancies or data gaps in network coverage;
(5) what hydrometric stations are crucial to data users' operations; and
(6) whether, more generally, user needs are being satisfied.

This, combined with socio-economic, physiographic, data quality, and network operator information, would allow objective assessment of individual hydrometric stations and the overall network.

The Water Planning and Management Branch of Environment Canada was responsible for the survey design and analysis, while the Water Resource Planning Branch of the New Brunswick Department of Municipal Affairs and Environment was responsible for the survey co-ordination.

2.0 SURVEY METHODOLOGY

Two survey questionnaires (Appendix A) were compiled. A "Short-Form" was designed to survey data users peripherally involved with water resources. It included questions dealing with water related activities/interests, current and future projects/activities, and awareness/use of water data publications.

A "Long-Form" was designed for users who were considered to be highly dependent on water resources data and information. The questionnaire included those questions posed by the "Short-Form" as well as others dealing specifically with: the types of hydrometric data used; frequency of data use; intended uses of data; types of interpreted data required; willingness of users to pay for data; perceived inadequacies of the N.B. Hydrometric Network; user dependency on water data; and desired accuracy of streamflow and information obtained by various kinds of data transfer techniques and methods of estimation.

A list of data users and potential users was compiled by N.B. Hydrometric Network Evaluation Committee members for use in the survey. The "Short-Form" was used in a "mail-out" survey, while the "Long-Form" was used in telephone and personal interviews. Both surveys were conducted between December 1986 and March 1987. The Water Resource Planning Branch of New Brunswick Department of Municipal Affairs and Environment (N.B.D.M.A.E.) undertook the mailout of the "Short-Form" while Porter Dillon Ltd., under contract, did the mailout and telephone/personal interviews for the "Long-Form" survey (Table 2.1).

Organizations surveyed included: power utilities; pulp and paper mills; mining companies; food processing plants; lumber companies; municipalities; federal and provincial agencies dealing with natural resources, transportation, agriculture, and flood protection; local fish and game organizations; university civil engineering departments; and engineering/environmental consultants.

3.0 SURVEY RESULTS

3.1 COMPLETED SURVEYS

To facilitate the survey analysis, completed questionnaires were filed within the following groupings: (1) academic institutions; (2) consultants; (3) fish and game organizations; (4) food and beverage companies; (5) government agencies; (6) industries; (7) municipalities; and (8) utilities (Table 3.2, Figure 3.1). These groupings are also used in the ensuing discussion on survey results.

The most feasible approach in organizing questionnaire results was to categorize identified data needs geographically by Water Survey of Canada Hydrologic sub-sub-division. This in turn would allow the correlating of data needs with corresponding groupings of gauging stations, where practical. Respondents with regional needs were assessed in a regional context; that is their needs were considered to be met through data transfer techniques and estimation, and thus could be categorized as data requirements for regional hydrology purposes.

Responses were then further differentiated by whether they indicated operational or regional requirements - operational requirements implied a need for "real-time", site specific data while regional requirements implied a need for data which could be met through data transfer techniques.

TABLE 2.1

USER SURVEY RESPONSE

Type	Sent	Completed	Rate	Method
Short	385	139	36%	Mail Out
Long	132	124	94%	Tel./Pers. Interview
Total	517	263	51%	

TABLE 3.1

SURVEY RESPONDENTS

NUMBER OF RESPONSES	ORGANIZATIONS
65	Municipalities
58	Government Agencies
40	Fish & Game Organizations
35	Industries
34	Consultants
20	Food and Beverage Companies
7	Academic Institutions
4	Utilities
263	Total Responses

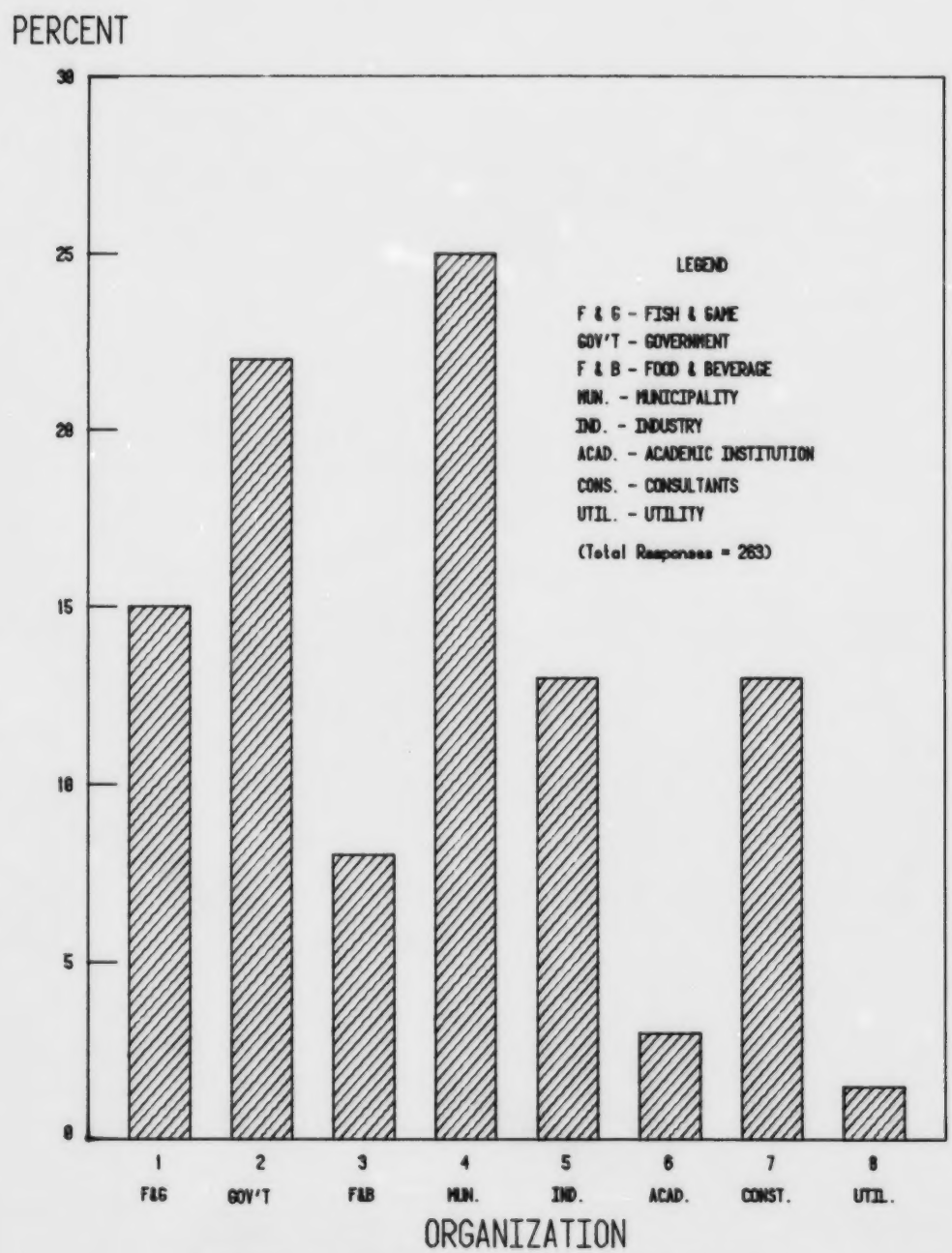

FIGURE 3.1 Respondents by Organization

3.2 DATA USERS

Of the 263 completed questionnaires, 146, or 56 percent, of the respondents identified a need for hydrometric data (Table 3.2). Government Agencies and engineering/ environmental consultants constituted the larger number of respondents requiring data (56%).

Some organizations were highly dependent on hydrometric data such as government agencies, consultants, utilities and academic institutions, while others identified little need for data, such as food and beverage companies (Figure 3.2).

3.3 USER NEEDS

Fifty percent of the data users had needs regional in scope, that is, at any particular time, data requirements could be for any part of New Brunswick. Typically, government agencies, consultants and academic institutions had this type of requirement. Other organizations, such as manufacturers, municipalities, food and beverage companies, fish and game organizations, some government agencies, and utilities had more localized requirements which could be assigned a geographic location. Twenty-one percent of these requirements were within the Saint John River Basin, 22 percent in coastal drainage areas, five percent in the Miramichi River Basin, and two percent in the Restigouche River Basin.

More than 50 percent of the data users required information dealing with yearly, monthly, and daily flows; water levels; suspended sediment; flood flow; low flow; and flow duration. Thirty-three percent required unspecified flow data and ground water quantity data; 20 percent required water temperature and ice thickness, while only 10 percent required snowpack information (Figure 3.3).

3.3.1 Need for Interpreted Data

Eighty-five percent of survey respondents requiring data indicated a need for interpreted data (e.g. mean flows and their variability). Utilities, government agencies, academic institutions, and consultants had the greatest need for these data (78 percent), while food and beverage companies had the least need (15 percent). (Figure 3.4).

TABLE 3.2

RESPONDENTS REQUIRING DATA
(TOTAL = 146)

PERCENT OF RESPONDENTS REQUIRING DATA	ORGANIZATIONS
35	Government Agencies
21	Consultants
14	Municipalities
14	Industries
7	Fish & Game Organizations
4	Academic Institutions
3	Utilities
2	Food and Beverage Companies
100	

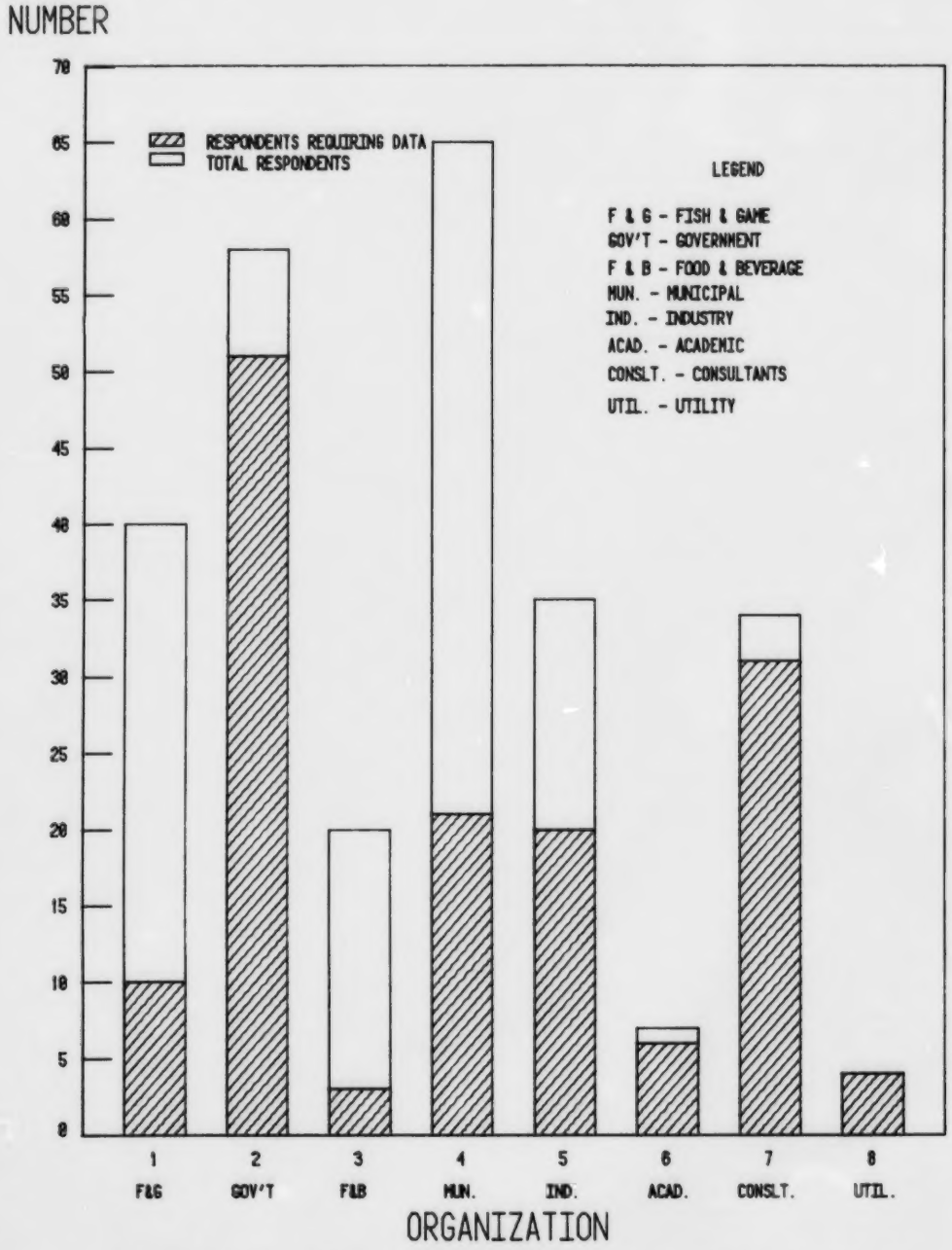

FIGURE 3.2 Number of Data Users by Organization

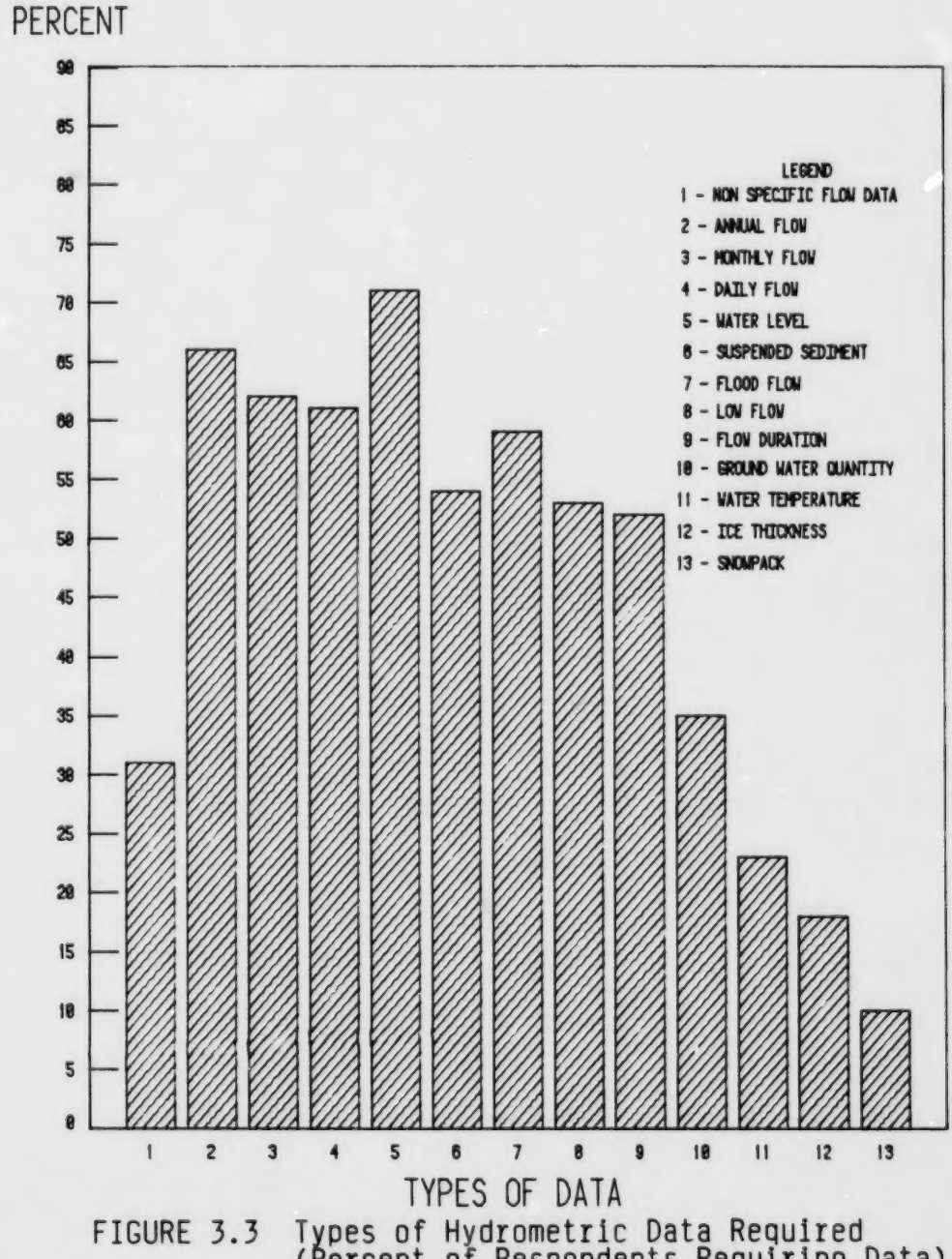

FIGURE 3.3 Types of Hydrometric Data Required (Percent of Respondents Requiring Data)

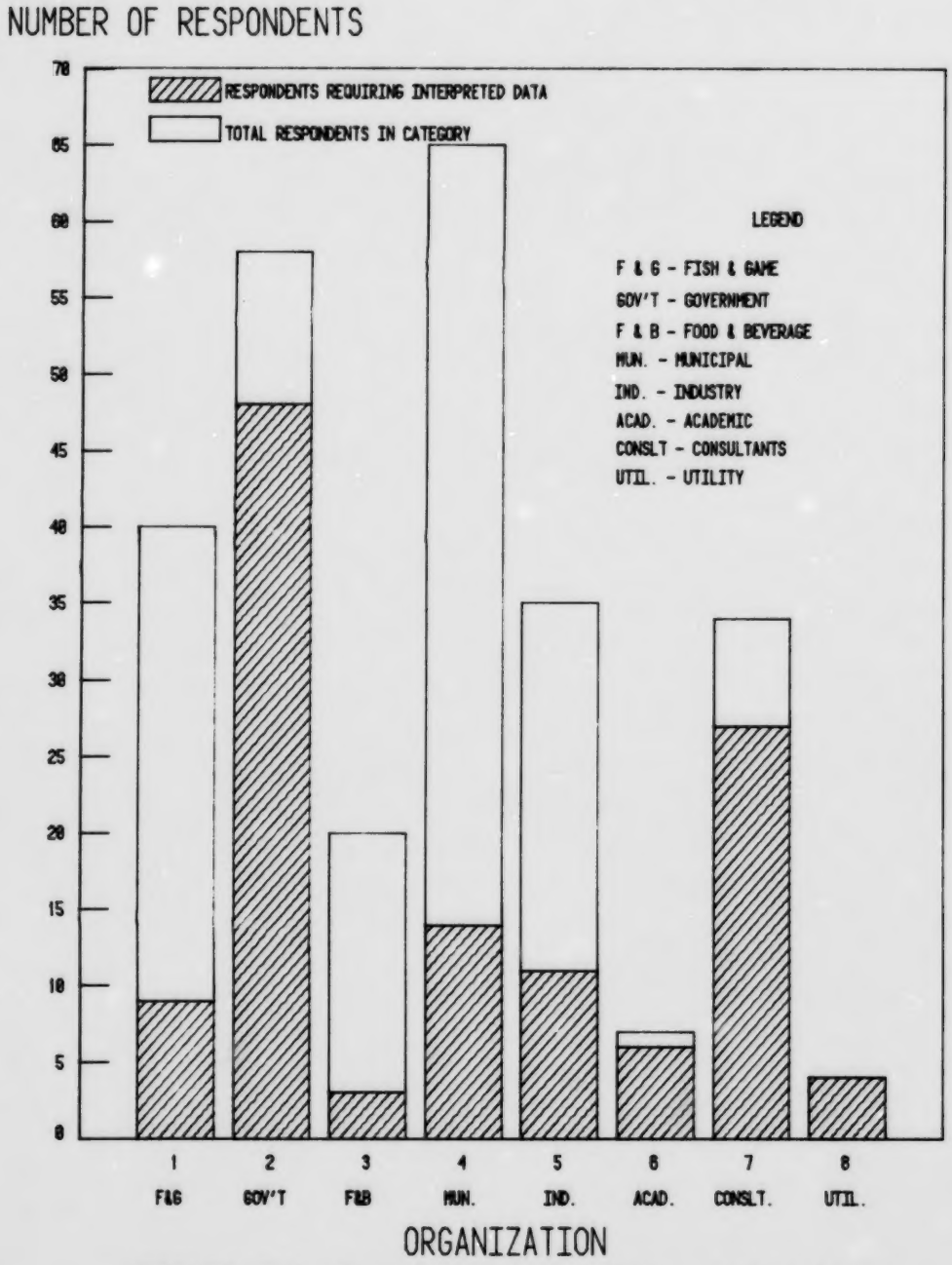

FIGURE 3.4 Requirement for Interpreted Data by Organization

3.3.2 Operational Data Needs

Various site-specific, "real-time" data were required by 39 (27 percent) of the 146 respondents identifying a use of hydrologic data (Figure 3.5). However, of this group, half made operational use of data provided by the hydrometric network, while the remaining organizations either generated their own data or else had water quality parameters as operational concerns. Actual operational use of network data was required by 20 (14 percent) of the 146 data users. These were principally government agencies and utilities located in the Saint John River Basin.

3.3.3 Required Data Accuracy

The "Long-Form" posed a question (#18) which sought information on the desired accuracy of data developed through data transfer techniques. Fifty-nine percent of the "Long-Form" respondents completed the question. Of those, over half required an accuracy of $\pm$ 10 percent; 35 percent $\pm$20 percent; and 7 percent $\pm$30 percent, making it evident that high quality data are required (Figure 3.6).

3.3.4 Frequency of Data Use

The "Long-Form" also posed a question (#6) regarding the frequency of data use. Responses indicated frequent use of data with approximately 90 percent of the respondents making use of the data at least once monthly.

3.4 OTHER SURVEY RESULTS

The user survey posed questions not only dealing with specific data requirements, but also with users' perceived network inadequacies, willingness to pay for data, and awareness of data publications and other data products.

3.4.1 Network Inadequacies

Of 117 responses to the "Long Form", only 38 responded to the question dealing with network inadequacies, indicating perhaps that the majority of data users were not sufficiently familiar with the network to provide comment. Of those people responding to the question,

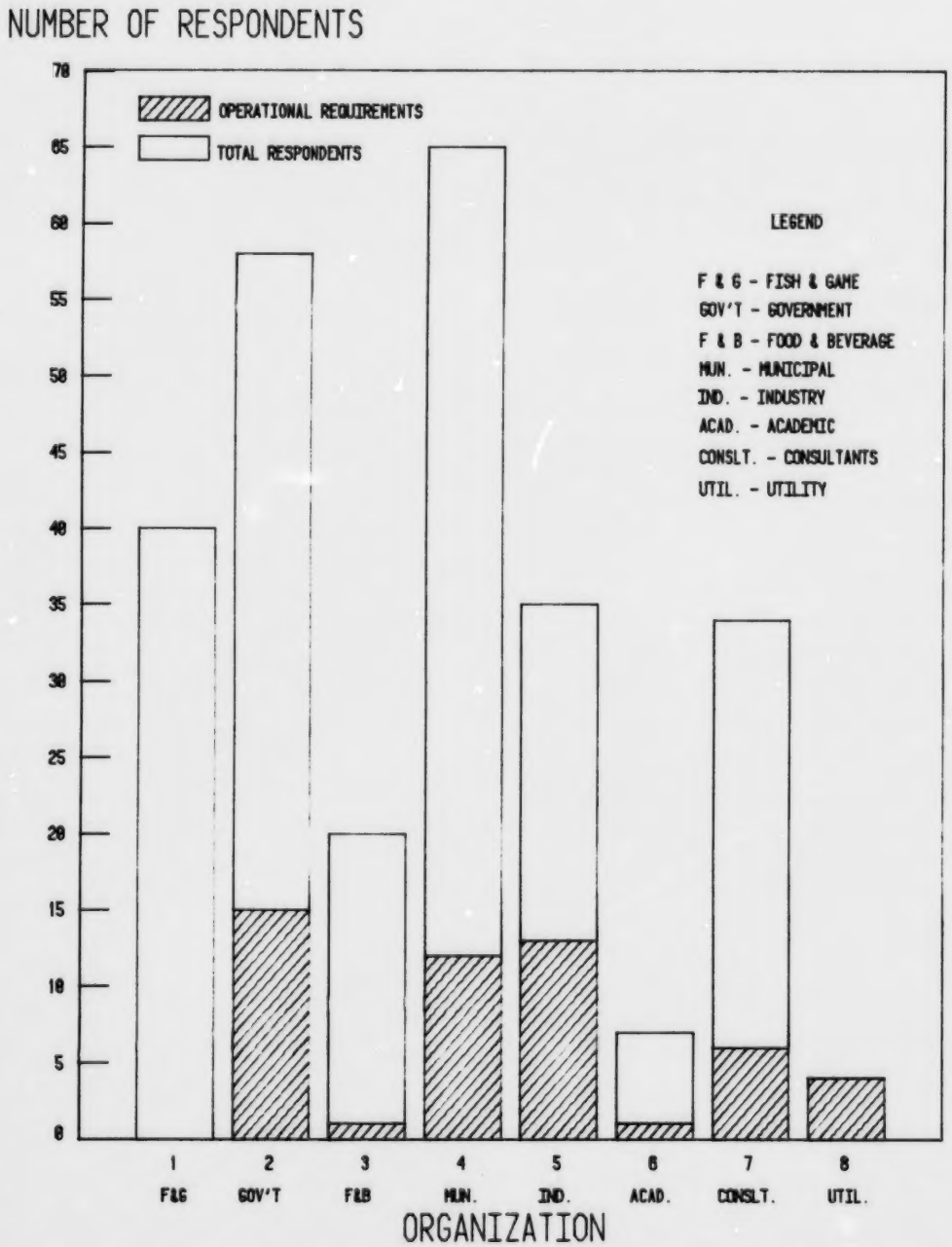

FIGURE 3.5 Operational Data Requirements by Organization

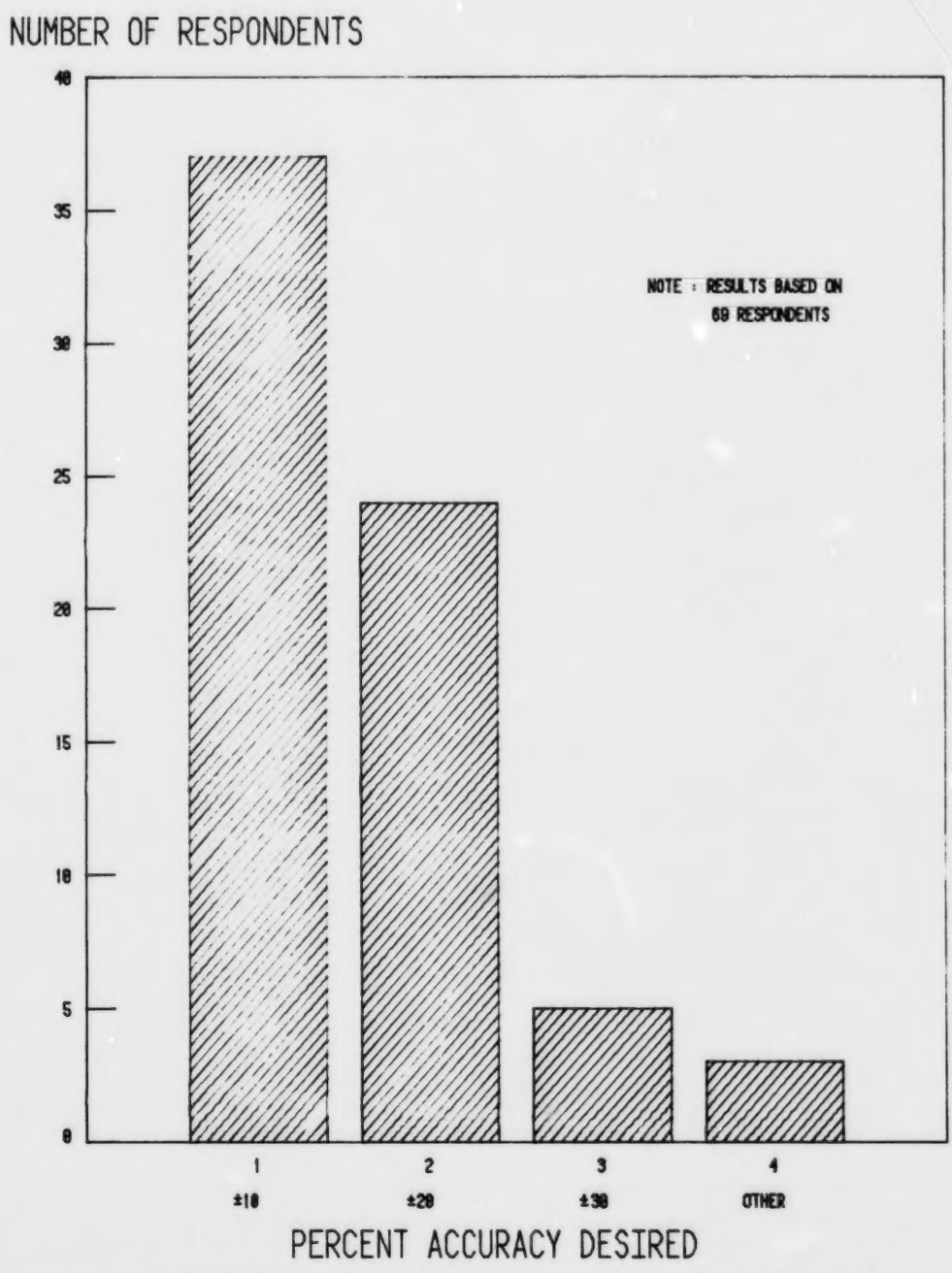

FIGURE 3.6 Desired Accuracy for Data Transfer Techniques

approximately 50 percent felt that station coverage was inadequate; 40 percent were dissatisfied with the period of record; 26 percent with the frequency of sampling; and 16 percent with quality of data (Figure 3.7).

Several specific areas of dissatisfaction were: (1) insufficient hydrometric stations on small watersheds; (2) inadequate coverage of central New Brunswick; (3) insufficient suspended sediment coverage, e.g. Bay of Chaleur (Dalhousie area); and (4) accuracy of data transfer techniques for their specific purposes.

Some users suggested that:

1. there be integration of data storage for parameters such as precipitation, ice, and flow data and integration of networks, such as climate, water quality and water quantity networks;
2. there be more emphasis on data interpretation than currently exists;
3. for each hydrologic region, there be both a small watershed index station as well as suspended sediment monitoring on representative rivers.

3.4.2 User Willingness to Pay

One hundred people responded to the "Long Form" question dealing with cost recovery. Of these, 50 percent felt user charges would be warranted; most of whom (70 percent) feeling that only a nominal fee should be charged.

3.4.3 User Awareness of Data Outputs

Awareness and use of WSC data outputs/publications were examined by both survey forms (Questions #7 on the "Short Form", and #11 on the "Long Form".

Approximately one third of the survey respondents were aware of the Historical Streamflow Summary, Historical Water Level Summary, and the Surface Water Data Index publication, while only 20 percent were aware of the Surface Water Data Preliminary Printout, the Sediment Data Reference Index, and the Annual Surface Water Data Microfiche and Computer Tape.

Publications used most frequently (by approximately 75 percent of those aware of their existence) were the Historical Streamflow Summary, the Surface Water Data Reference Index, the Annual Surface Water Data Annual

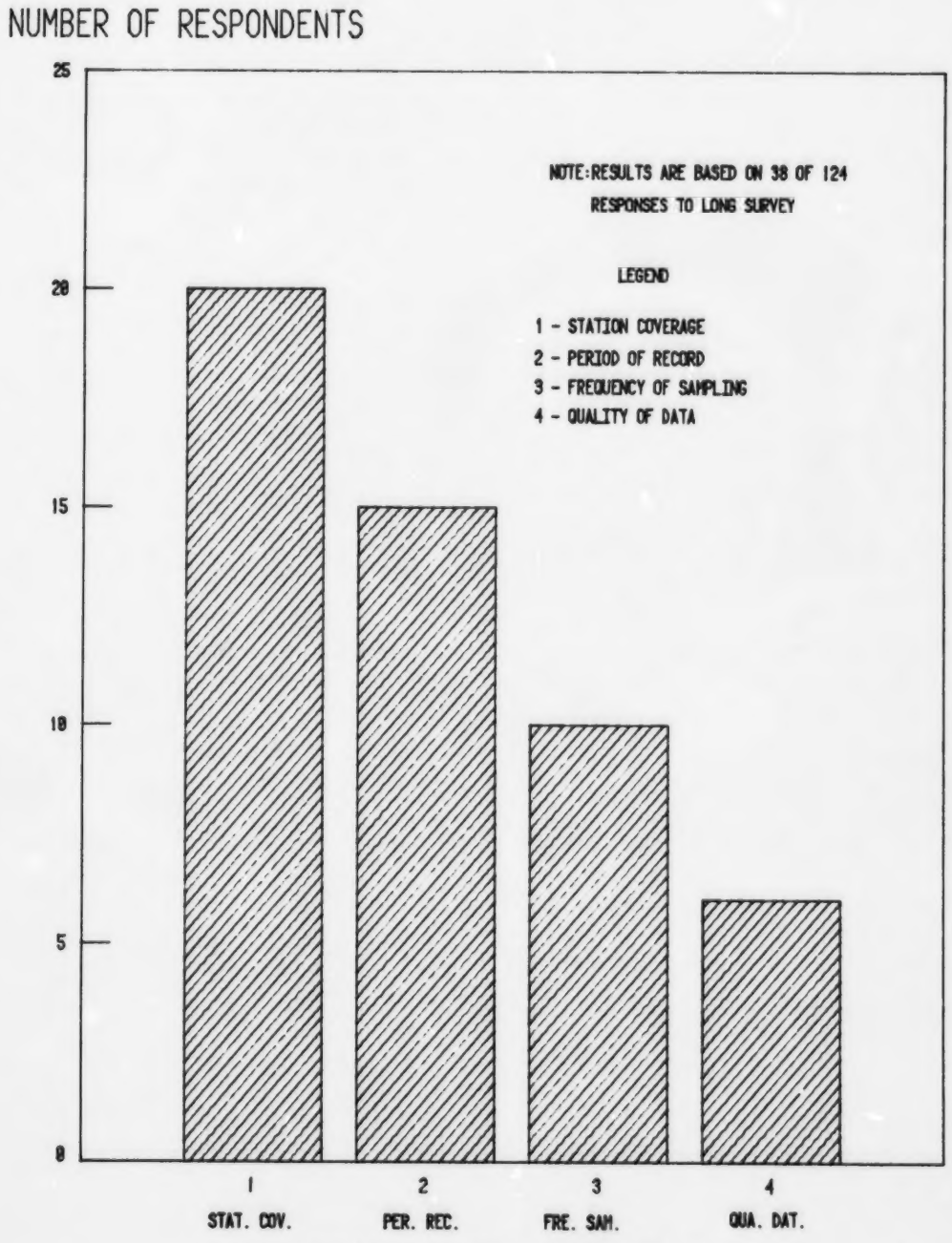

FIGURE 3.7 Identified Network Inadequacies

Publication, and the Surface Water Data Preliminary Printout. The Annual Surface Water Data Computer Tape was used by half of those people who are aware of its existence. Least used were the Annual Surface Water Data Microfiche and the Sediment Data Reference Index (Table 3.3, Figure 3.8).

Non-professional users had low awareness of hydrometric network products (Table 3.3), but many of the respondents indicated a desire to receive sample publications in order to determine their utility.

3.5 SUMMARY OF SURVEYED USER NEEDS

Government agencies and consulting firms formed the largest group of survey respondents requiring hydrometric data. Fifty percent of data users (government agencies, consultants and academic institutions) generally had requirements for regional data and information, with the balance having localized, and in some cases, site-specific needs, principally in the Saint John River Basin.

Greater than 50 percent of data users required information on annual, monthly and daily flows; water levels; suspended sediment; flood flows, low flows, and flow duration. Interpreted data were required by 85 percent of the respondents, with utilities, government agencies, academic institutions and consultants having the greatest need (80 percent of total respondents requiring data).

Data for operational purposes were required by 27 percent of the survey respondents, with 14 percent actually using data generated by the network. These were principally government agencies and utilities in the Saint John River Basin. Eighty-five percent of the responses to the question on data transfer technique accuracy indicated a desire for high quality information ($\pm$20% accuracy). Ninety percent of the responses on frequency of data use indicated frequent usage (at least once monthly).

More than half of the data users commenting on network inadequacies identified the lack of station coverage in central New Brunswick as being a problem. Others were dissatisfied with the low number of small watersheds gauged by the network, the inadequate measurement of suspended sediment in representative rivers, and the accuracy of data transfer techniques. A significant number of users were willing to pay a nominal fee for hydrometric data received.

TABLE 3.3

USER AWARENESS OF HYDROMETRIC DATA PUBLICATIONS

PUBLICATIONS/DATA OUTPUT	NUMBER OF RESPONDENTS AWARE	USE	USAGE (%)
Surface Water Data Reference Index	71	53	75
Annual Surface Water Data Annual Publication	68	47	69
Annual Surface Water Data Microfiche	47	21	45
Annual Surface Water Data Computer Tape	50	29	58
Surface Water Data Preliminary Printout	63	42	67
Historical Streamflow Summary	89	71	80
Historical Water Level Summary	74	47	64
Sediment Data Reference Index	53	21	40

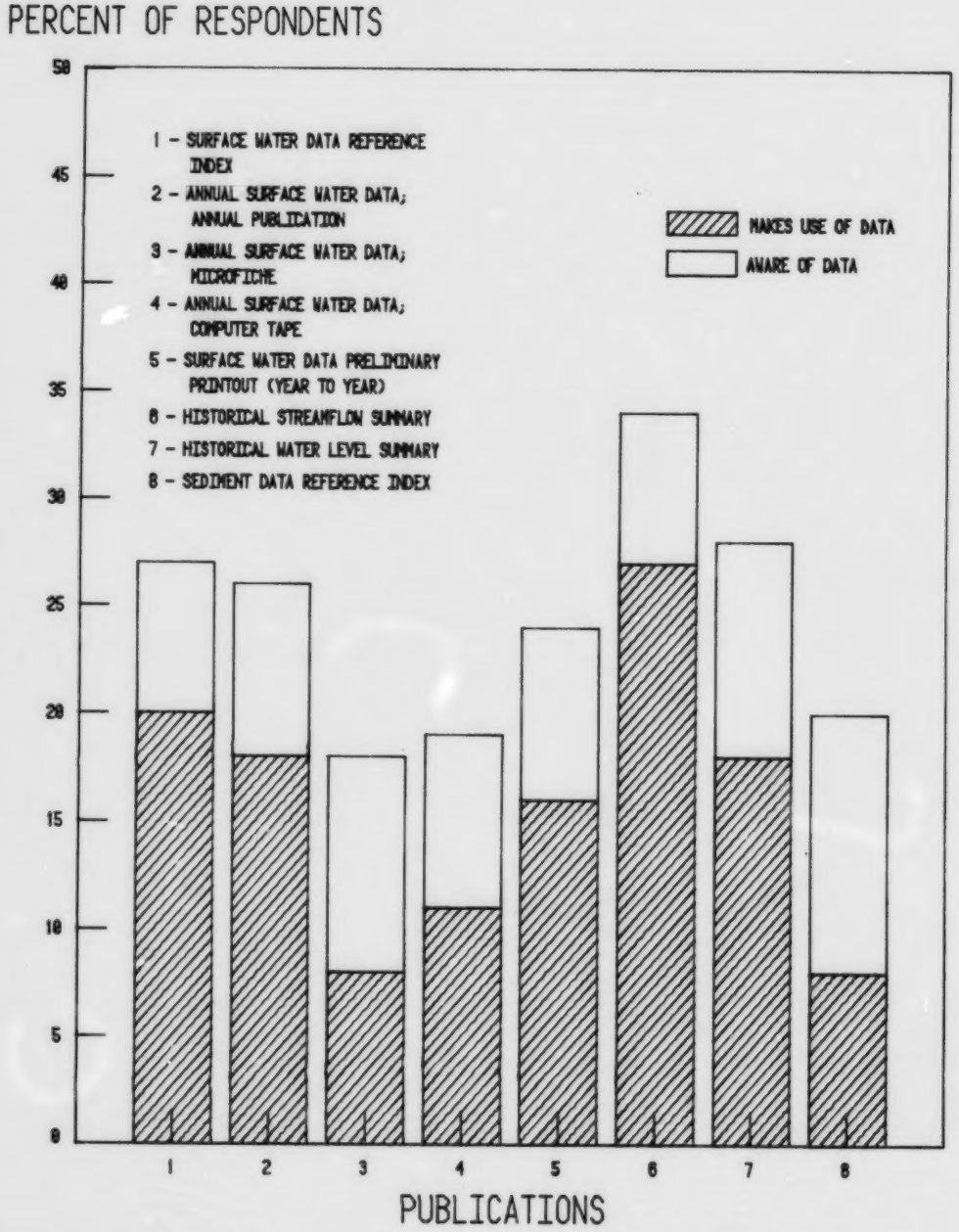

FIGURE 3.8 Awareness and Use of WRB Publications

Awareness of WSC publications was low among non-professional users. Thirty percent of respondents indicated they knew of the "Historical Streamflow Summary", the "Historical Water Level Summary", and the "Surface Water Index", but only 20 percent were aware of the "Surface Water Data Preliminary Printout", the "Sediment Data Reference Index", and the "Annual Surface Water Data Microfiche and Computer Tapes". Users of these publications were principally government agencies, utilities, and consultants.

3.6 SURVEY SHORTCOMINGS

The User Survey was useful in gaining an assessment of regional hydrology data needs, but did not provide information regarding data requirements specific to gauging stations. Respondents, including major data users such as utilities and government agencies, provided summaries of their needs, omitting reference to specific gauging stations, possibly because they lacked sufficient knowledge of the hydrometric network; they did not realize the degree of detail the survey required; or they did not see the relevance of the survey.

Other problems encountered with the quality of user responses included:

(1) consultants were often reluctant to discuss future projects for reasons of confidentiality and uncertainty;
(2) in some cases, the person completing the questionnaire was probably not the most qualified within the organization to comment on hydrometric data needs (an example would be town/municipal clerks since small municipalities would often have consultants doing all necessary water/ infrastructure work);
(3) some non-professional data users encountered difficulties in completing the more technical questions.

Generally, the most informative responses came from people who had been interviewed personally or by telephone since the interviewer could explain the questions when necessary and guide the respondent through the questionnaire.

In their report "Summary Report on Findings of the User Survey Project", Porter Dillon Ltd. included a critique of the "Long Form" survey (Appendix B) as requested in the Terms of Reference for their work.

4.0 OTHER IDENTIFIED USER NEEDS

In light of the problems described above, user needs for specific stations had to be further determined. An activity within the Network Evaluation, occurring concurrently with the user survey analysis, was the development of an approach to determine the relative importance of each network station. This approach involved assigning each station a point score based on various factors including physiographic characteristics, type and purpose of station, quality and period of record, client needs (regional and operational), and socio-economic parameters. A "Round Table Station Audit" was conducted in which staff members of federal and provincial water resource agencies participated in discussions aimed at assessing the relative importance of each existing and proposed (network) gauging station. The "Station Audit" participants provided additional information on station-specific user needs from personal knowledge. The station scorings produced in this exercise are listed in Appendix C.

Table 5.1 indicates the principal requirements for station-specific data and the number of stations used. Data for regional hydrology purposes are derived from 62 (73 percent) of the network stations which include index stations and gauges used for IJC Board of Control, water quality, and suspended sediment monitoring. Flood Forecasting and related studies make use of data from 49 (58 percent) of the network stations, principally in the Saint John River Basin. Other uses include fisheries (37 percent) environmental impact (31 percent), energy (29 percent), navigation and recreation (21 percent) water supplies (20 percent), and other infrastructure, such as transportation and sewerage (20 percent).

5.0 SUMMARY OF USER NEEDS

The New Brunswick Hydrometric Network Evaluation Committee examined uses of network data outputs as part of its review. It commissioned a user survey which, combined with other information, provided the background for assessment of hydrometric data user needs.

Government agencies, consultants, utilities, and academic institutions were, not unexpectedly, found to be the foremost users of hydrometric data for both regional and operational purposes. Industry, food and beverage companies, and fish and game organizations had a considerbly lower requirement for

TABLE 5.1

SUMMARY PRINCIPAL REQUIREMENTS FOR STATION-SPECIFIC DATA

PURPOSE	NO. OF STATIONS USED	PERCENTAGE OF TOTAL STATIONS*
Regional Hydrology	62	73
Flood Forecasting, and Related Studies	49	58
Fisheries	31	37
Environmental Impact	26	31
Energy	25	29
Navigation and Recreation	18	21
Water Supply	17	20
Other Infrastructure	17	20

*Total Number of Stations = 85

network data, possibly from either a lack of awareness of network outputs, or a requirement for a data product with a higher level of interpretation, e.g. fact sheets.

Some data users indicated dissatisfaction with:

(1) station coverage in central New Brunswick;
(2) the lack of index stations in small watersheds;
(3) insufficient suspended sediment coverage;
(4) the accuracy in data transfer techniques.

Some suggested integration of networks (e.g. climate, water quality, and water quantity) and cross-linking databases (e.g. precipitation, ice, and flow data) to facilitate data retrieval and analyses. Others suggested that there be more interpretation of data than is currently done.

6.0 RECOMMENDATIONS

1. Respondents to the User Survey provided generalizations about their data requirements rather than being site-specific. This made it necessary to infer their station-specific data needs. In view of this, a Data User Committee, comprising representatives from Environment Canada's Water Resources Branch, N.B.D.M.A.E. Water Resource Planning Branch, and principal data users, should be established to hold a series of round table discussions to more accurately determine data users' needs on a station by station basis, as well as review recommendations proposed by the N.B. Hydrometric Network Evaluation Report regarding changes in the network.
   Once established, the Data Use Committee should also:
   (a) hold annual meetings to monitor changing user needs and ensure programs are on track;
   (b) produce an annual newsletter for data users providing them with an update on innovations and changes to the network and its data products (provide a postage paid return envelope to permit user comment).

2. Examine the feasibility of increasing station coverage in central New Brunswick.

3. Establish more index stations in representative small watersheds.

4. Improve suspended sediment coverage by monitoring representative river basins.

5. Examine the feasibility of integrating monitoring networks (AES, WQB and WRB) and cross-linking data bases(e.g. precipitation, ice, and flow data) to facilitate data retrieval and analyses. A preliminary attempt could be made at the latter by trying to integrate some data products, e.g. tapes.

6. Develop a marketing strategy for Network outputs to broaden the "user base". This would include:
   (a) deciding on target groups;
   (b) establishing various levels of interpreted data outputs, ranging from raw data required by utilities, to fact sheets and overviews which would be of interest to groups such as fish and game clubs and environmental organizations. Water quality components should be included in some of these publications. To assist in determining the types of interpreted data required, the Water Resources Branch of Environment Canada should respond as soon as possible to User Survey respondents who had data requests and other questions. A large number expressed interest in seeing whether data publications would be of use.
   (c) examine feasibility of charging a nominal fee for data provided to users.

7. Conduct a follow up survey in five years time to determine whether user needs have changed and whether any changes in the network may have had an impact on data use. Telephone surveys and personal interviews, though more costly than mail out surveys, produce better results. A map showing gauging station locations would be a useful attachment to a questionnaire that required site-specific details about gauging sites.

REFERENCES

1. New Brunswick Hydrometric Network Evaluation Committee: "Station Audit Exercise" Discussions; 15, 16, and 21 September, 1987.

2. Porter Dillon Ltd.: Summary Report on Findings of the User Survey Project, Halifax, N.S., April 1987.

APPENDIX A

"SHORT FORM"

and

"LONG FORM"

ASSESSMENT OF WATER DATA USERS' NEEDS
- PROVINCE OF NEW BRUNSWICK
"SHORT FORM"

1. NAME _____

2. ORGANIZATION _____

3. ADDRESS _____
_____
_____

4. PHONE _____

5. Which of the following best categorize the water-related activities or concerns of your organization? (Check more than one if necessary).

(a)	Water supply withdrawals	_____
(b)	Research	_____
(c)	Regional/Municipal planning	_____
(d)	Hydropower	_____
(e)	Other energy development	_____
(f)	Flood forecasting and management	_____
(g)	Recreation	_____
(h)	Wildlife management	_____
(i)	Forest management	_____
(j)	Fisheries	_____
(k)	Agriculture	_____
(l)	Mining	_____
(m)	Manufacturing	_____
(n)	Water quantity monitoring	_____
(o)	Water quality monitoring	_____
(p)	Environmental assessment	_____
(q)	Transportation/Navigation	_____
(r)	Stream alterations	_____
(s)	Hydraulic structures	_____
(t)	Lowflow augmentation	_____
(u)	Waste Disposal	_____
(v)	Public Health	_____
(w)	Other (please specify)	_____
		_____
		_____

6. Please list current and future projects or activities of your organization which are water-related, identifying the location of the activity and the water body utilized or affected:

If water data is (or could be) required for the activity please also identify the type(s) of data required and the purposes(s) for which it is needed: (Use back of page for additional space if necessary).

Project/ Activity	Water Body/ Location	Type(s) of Data	Purpose(s)
A. Present Projects/Activities			
B. Future Projects/Activities			

7. Are you aware of and do you make use of the following water data outputs?

	Aware of		Make Use of	
	Yes	No	Yes	No
(a) Surface Water Data Reference Index	___	___	___	___
(b) Annual surface water data:				
i) Annual Publication	___	___	___	___
ii) Microfiche	___	___	___	___
iii) Computer tape	___	___	___	___
(c) Surface water data Preliminary Printout (year to date)	___	___	___	___
(d) Historical Streamflow Summary	___	___	___	___
(e) Historical Water Level Summary	___	___	___	___
(f) Sediment Data Reference Index	___	___	___	___
(g) National Water Quality Databank (NAQUADAT)	___	___	___	___

8. Please list any other individuals or organizations in your area of interest who would be able to further identify water data needs. If possible, please provide an address or phone number.

_____
_____
_____
_____
_____

9. Do you have any other comments on this questionnaire or regarding your water data needs?

_____
_____
_____
_____
_____

THANK YOU FOR PARTICIPATING IN THIS SURVEY:

PLEASE MAIL YOUR REPONSE BY JANUARY 30 IN THE ENVELOPE PROVIDED.

ASSESSMENT OF WATER DATA USERS' NEEDS
- PROVINCE OF NEW BRUNSWICK
"LONG FORM"

1. NAME _____

2. ORGANIZATION _____

3. ADDRESS _____
_____
_____

4. PHONE _____

5. Which of the following best categorize the water-related activities or concerns of your organization? (Check more than one if necessary).

(a) Water supply withdrawals _____
(b) Research _____
(c) Regional/Municipal planning _____
(d) Hydropower _____
(e) Other energy development _____
(f) Flood forecasting and management _____
(g) Recreation _____
(h) Wildlife management _____
(i) Forest management _____
(j) Fisheries _____
(k) Agriculture _____
(l) Mining _____
(m) Manufacturing _____
(n) Water quantity monitoring _____
(o) Water quality monitoring _____
(p) Environmental assessment _____
(q) Transportation/Navigation _____
(r) Stream alterations _____
(s) Hydraulic structures _____
(t) Lowflow augmentation _____
(u) Waste Disposal _____
(v) Public Health _____
(w) Other (please specify) _____
_____

6. You typically have requirements for:
(a) Surface water hydrometric data _____
(b) Surface water quality data _____
(c) Groundwater quantity _____
(d) Groundwater quality _____
(e) Estuary quality _____
(f) None of the above _____

7. How often do you require water data?
(a) Daily or Almost Daily _____
(b) Frequently (1-5 times per month) _____
(c) Rarely (1-2 times per month) _____
(d) Not at all _____

8. What type(s) of water quantity data do you normally require?

(a) Water Leve _____
(b) Streamflow _____
(c) Flow Velocity _____
(d) Suspended Sediment _____
(e) Water Temperature _____
(f) Ice Thickness _____
(g) Snowpack _____
(h) Other (Specify) _____

9. Identify which water quality parameters are of interest to you. Please specify where possible.

(a) Physical	(b) Inorganic	(c) Organic
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

(d) Biological	(e) Bacteriological
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

10. Your water data requirements are for the purpose of:

(a) Investigations _____
(b) Design _____
(c) Construction _____
(d) Operations _____
(e) All the above _____

11. Are you aware of and do you make use of the following water data outputs?

	Aware of		Make Use of	
	Yes	No	Yes	No
(a) Surface Water Data Reference Index	___	___	___	___
(b) Annual surface water data:				
i) Annual Publication	___	___	___	___
ii) Microfiche	___	___	___	___
iii) Computer tape	___	___	___	___
(c) Surface water data Preliminary Printout (year to date)	___	___	___	___
(d) Historical Streamflow Summary	___	___	___	___
(e) Historical Water Level Summary	___	___	___	___
(f) Sediment Data Reference Index	___	___	___	___
(g) National Water Quality Databank (NAQUADAT)	___	___	___	___

12. What type(s) of water quantity data interpretations do you or might you want provided?

(a) Basic statistics such as annual, monthly and daily means and their variability _____
(b) Flow frequency and duration estimates _____
(c) Estimates of regional flow characteristics _____
(d) Groundwater levels and variability _____
(e) Other (please specify) _____
_____
_____

13. What type(s) of analysis/interpretation of water quality data do you require?

_____
_____
_____
_____

14. Would you consider it reasonable to be charged for the water data/ information provided?

a) Yes ____ b) No ____

If no, why not? _____
_____

If yes, the charge should be:

Total cost _____ Flat Fee _____
Nominal Fee _____ Don't know _____

Reasons: _____
_____

15. Do you feel the present water data base is inadequate in any of the following aspects?

(a) Station coverage _____
(b) Parameter coverage _____
(c) Period of record _____
(d) Frequency of sampling _____
(e) Quality of data _____
(f) Other _____
_____

Please provide specifics for any inadequacies noted above:

_____
_____
_____
_____

16. Please list current and future projects or activities of your organization which are water-related, identifying the location of the activity and the water body utilized or affected:

If water data is (or could be) required for the acitivity please also identify the type(s) of data required and the purposes(s) for which it is needed: (Use back of page for additional space if necessary).

Project/ Activity	Water Body/ Location	Type(s) and Frequency of Data Required (eg. Daily Streamflow)	Purpose(s) (eg. Hydraulic Design)
A. Present Projects/Activities			
B. Future Projects/Activities			

17. In per cent, please approximate the extent to which you feel the projects/activities you identified are dependent on water data being provided.

(a) _____ per cent
(b) Specific reasons (if any): _____
_____
_____

18. If water quantity data for the locations you identified were generated by data transfer techniques, what level of accuracy would be acceptable?

± 10% _____
± 20% _____
± 30% _____
Other (specify) _____
_____

19. Do you have any other comments on this questionnaire or regarding your water data needs?

_____
_____
_____
_____
_____

THANK YOU FOR PARTICIPATING IN THIS SURVEY:

YOU WILL BE CONTACTED BY PHONE OR IN PERSON WITHIN THE NEXT 2 - 3 WEEKS TO COMPLETE YOUR RESPONSE.

APPENDIX B

Porter-Dillon Ltd.:

"Critique of the Questionnaire" (Long Form)

PORTER-DILLON LTD., APRIL, 1987

"Summary Report on Findings of the User Survey Project" pp 5-7

5.0 CRITIQUE OF THE QUESTIONNAIRE

The conduct of the telephone interviews and personal interviews has provided insight into the response of the various individuals to a questionnaire survey of this type, and permits the development of some constructive criticism.

Generally, it was noted by many respondents that the telephone or personal visit followup was essential to successful information gathering. Many respondents stated that without the personal followup there would probably have been a much less meaningful response provided. It is generally felt, therefore, that the quality of response is high because of the personal followup methods employed in this project.

From the perspective of consultants, the questionnaire approach employed in this survey is generally considered effective and efficient. Most consultants are willing to respond meaningfully to a survey of this nature. The responses are often general in nature, however, and the identification of projects (particularly future projects) is sometimes reluctantly offered. In the case of the present survey, the response of consultants was generally of high quality. Many of the most extensive data users were from the consulting community.

From the perspective of industry, the questionnaire approach is very much less desired. Most industry respondents feel that they have not the time or the need to respond to questionnaires. Many feel that because the questionnaire has items in it which are not of relevance to their industry, then the whole effort is of no relevance. It is suggested that in future surveys of this nature the industry representatives should be targeted more carefully. If possible, it is recommended that less industries be chosen, but that those to be interviewed be visited personally and that the individuals who can best respond to the questions at hand be identified before personal visits to the industry site.

The questionnaire focussed only to a limited extent on government users. This was a wise choice given that one apparent goal is to identify commercial users of data. It must be noted, however, that some of the most significant data users in New Brunswick are the District Biologists within the New Brunswick Department of Natural Resources and Energy. One of the difficulties in distributing the questionnaire to the Federal

Department of Fisheries and Oceans is that it was not targeted to practicing engineers or biologists. In future it is suggested that individuals within specific branches of DFO be targeted.

Some respondents to the questionnaire expressed frustration with the process, because they had been contacted earlier with other questionnaire forms. Perhaps these respondents had also received the "short form" questionnaires.

Almost all respondents had some difficulty with the design of the questionnaire form itself. Specifically, this difficulty resulted from the fact that some portions of the questionnaire are to be responded to using simple check-marks, while others require written input. This was particularly confusing when responding to question 8 (type of quantity data) and question 9 (quality parameters), as well as when responding to questions 12 (quantity interpretations) and 13 (quality interpretations). Such confusion in response type is best avoided in a lengthy questionnaire form.

As it stands, question 11 allows only some respondents to answer. This is because many respondents may only be "vaguely familiar" with the publications; others may have them in their libraries; still others may not understand what the publications are at all. It was noted that many respondents did not make use of any publications, but rather used direct telephone requests to the New Brunswick Department of Municipal Affairs and Environment when data were needed.

Some of the respondents who were not familiar with the publications, but who might have been considered to be interested in them, expressed interest in receiving followup information from the government.

Very few respondents could respond in detail to question 15. Some additional interpretive information would probably have been helpful in this case, such as a simplified map of New Brunswick showing the current quantity and quality monitoring stations.

Question 16 (current and future projects) demands a detailed response, yet most respondents are unwilling or unable to provide such detailed responses. As a result, a more generic approach was applied in this study. The generic approach involves the identification of typical projects or activities which require water data.

Questions 17 and 18 were extremely difficult to answer for most respondents. Question 17 is doubtless a "leading" question which most respondents would consider to be implicit. Since water-related projects were already given, why wouldn't they be dependent on water data.

APPENDIX C

SUMMARY OF PRINCIPAL DATA USES BY STATION

The Round Table Station Audit assessed the relative contribution each network station (existing and proposed) made to the various priority considerations listed in the following table. The table is organized by Water Survey of Canada (WSC) sub-sub-divisions, and their respective gauging station(s) existing and proposed. Station numbers have been shortened and additional information describing the type of station inserted. Explanation of the abbreviations is as follows:

N: Natural flow station;
R: Regulated flow station;
WL: Water level station;
PN: Proposed natural flow station.

Values in brackets were assigned to the respective client priority sectors. These were then prorated to produce an aggregated value to a maximum of ten points.

A more detailed discussion of the Station Audit is presented in Chapter V of the Principal Report.

WSC SUB-SUB-DIVISION 1AD

Priority Considerations	Maximum Available Points	Existing Stations 02EW	03EW	04WL	Proposed Stations
A. Site Characteristics					
(1) Mean Annual Flow	6	6	4	-	
(2) Water Level Only	3	-	-	3	
(3) Quality of Record	15	13	15	11	
(4) Period of Record	10	10	7	3	
(5) Proximity to Climate Station	5	5	4	0	
B. Client Needs					
(I) Regional Hydrology:					
(6) Minimum Natural Flow Network	9/0	9	0	-	
(7) Regional Hydrology Priority Code	9	9	4	-	
(8) Long Term Index Monitoring	8	8	3	0	
(9) Special Regional Hydrology Needs	10	10	3	5	
(10) Client Priority	10	4	0	1	
(a) water supply (10)		(0)	(0)	(0)	
(b) other infrastructure (8)		(0)	(0)	(0)	
(c) flooding (6)		(6)	(0)	(0)	
(d) environmental impact (7)		(4)	(0)	(3)	
(e) fisheries (6)		(4)	(0)	(3)	
(f) energy (8)		(7)	(0)	(0)	
(g) navigation and recreation (5)		(0)	(0)	(0)	
(11) Serves Operational and Regional Hydrology Needs	12/0	12	12	12	
II - Operational (regulated/site specific)					
(12) Federal Formal Commitments	10	5	4	0	
(13) Provincial Formal Commitments	10	8	0	0	
(14) Client Priority	10	3	2	3	
(a) water supply (8)		(0)	(0)	(5)	
(b) other infrastructure (5)		(0)	(0)	(0)	
(c) flooding (9)		(9)	(9)	(9)	
(d) environmental impact (8)		(0)	(0)	(0)	
(e) fisheries (7)		(0)	(0)	(0)	
(f) energy (8)		(8)	(0)	(5)	
(g) navigation and recreation (5)		(0)	(0)	(0)	
C. Regional Importance of Resource					
(15) Population Density	5	4	2	4	
(16) Municipal Water Use	9	2	2	2	
(17) Industrial Water Use	9	9	4	9	
(18) Fisheries Priority	8	5	5	5	
(19) Hydro Potential	8	7	0	7	
(20) Economic Pressure	7	3	3	3	
(21) Flooding	8	5	2	5	
(22) Water Quality	9	6	2	6	
(23) Water Shortage Potential	10	6	6	6	

WSC SUB-SUB-DIVISION 1AE

Priority Considerations	Maximum Available Points	Existing Stations	Proposed Stations
		01E	
A. Site Characteristics			
(1) Mean Annual Flow	6	4	
(2) Water Level Only	3	-	
(3) Quality of Record	15	15	
(4) Period of Record	10	10	
(5) Proximity to Climate Station	5	4	
B. Client Needs			
(I) Regional Hydrology:			
(6) Minimum Natural Flow Network	9/0	9	
(7) Regional Hydrology Priority Code	9	2	
(8) Long Term Index Monitoring	8	8	
(9) Special Regional Hydrology Needs	10	10	
(10) Client Priority	10	4	
(a) water supply (10)		(0)	
(b) other infrastructure (8)		(0)	
(c) flooding (6)		(6)	
(d) environmental impact (7)		(4)	
(e) fisheries (6)		(4)	
(f) energy (8)		(7)	
(g) navigation and recreation (5)		(0)	
(11) Serves Operational and Regional Hydrology Needs	12/0	12	
II - Operational (regulated/site specific)			
(12) Federal Formal Commitments	10	5	
(13) Provincial Formal Commitments	10	8	
(14) Client Priority	10	3	
(a) water supply (8)		(0)	
(b) other infrastructure (5)		(0)	
(c) flooding (9)		(9)	
(d) environmental impact (8)		(0)	
(e) fisheries (7)		(0)	
(f) energy (8)		(8)	
(g) navigation and recreation (5)		(0)	
C. Regional Importance of Resource			
(15) Population Density	5	4	
(16) Municipal Water Use	9	2	
(17) Industrial Water Use	9	9	
(18) Fisheries Priority	8	5	
(19) Hydro Potential	8	7	
(20) Economic Pressure	7	3	
(21) Flooding	8	5	
(22) Water Quality	9	6	
(23) Water Shortage Potential	10	6	

WSC SUB-SUB-DIVISION 1AF

Priority Considerations	Maximum Available Points	Existing Stations 02H	03H	07H	08HL	Proposed Stations P1H	P2H	P3H
A. Site Characteristics								
(1) Mean Annual Flow	6	6	4	2	-	2	2	2
(2) Water Level Only	3	-	-	-	3	-	-	-
(3) Quality of Record	15	11	10	13	3	10	10	10
(4) Period of Record	10	10	3	7	10	10	10	10
(5) Proximity to Climate Station	5	5	4	1	-	1	2	2
B. Client Needs								
(I) Regional Hydrology:								
(6) Minimum Natural Flow Network	9/0	0	0	9	-	9	9	0
(7) Regional Hydrology Priority Code	9	2	2	4	-	7	7	0
(8) Long Term Index Monitoring	8	0	0	5	0	0	0	0
(9) Special Regional Hydrology Needs	10	4	4	7	0	10	8	3
(10) Client Priority	10	1	3	0	1	1	1	1
(a) water supply (10)		(0)	(0)	(0)	(0)	(0)	(0)	(0)
(b) other infrastructure (8)		(0)	(0)	(0)	(0)	(0)	(0)	(0)
(c) flooding (6)		(3)	(5)	(0)	(0)	(5)	(5)	(5)
(d) environmental impact (7)		(0)	(4)	(0)	(0)	(0)	(0)	(0)
(e) fisheries (6)		(0)	(0)	(0)	(0)	(0)	(0)	(0)
(f) energy (8)		(4)	(5)	(0)	(6)	(0)	(0)	(0)
(g) navigation and recreation (5)		(0)	(0)	(0)	(0)	(0)	(0)	(0)
(11) Serves Operational and Regional Hydrology Needs	12/0	12	12	12	0	12	12	12
II - Operational (regulated/site specific)								
(12) Federal Formal Commitments	10	0	0	0	0	0	0	0
(13) Provincial Formal Commitments	10	0	0	0	0	0	0	0
(14) Client Priority	10	3	3	2	0	1	3	2
(a) water supply (8)		(3)	(3)	(2)	(0)	(0)	(6)	(0)
(b) other infrastructure (5)		(0)	(0)	(0)	(0)	(0)	(0)	(0)
(c) flooding (9)		(6)	(6)	(8)	(0)	(6)	(7)	(8)
(d) environmental impact (8)		(0)	(0)	(0)	(0)	(0)	(0)	(0)
(e) fisheries (7)		(0)	(0)	(0)	(0)	(0)	(0)	(0)
(f) energy (8)		(8)	(8)	(0)	(0)	(0)	(0)	(0)
(g) navigation and recreation (5)		(0)	(0)	(0)	(0)	(0)	(0)	(0)
C. Regional Importance of Resource								
(15) Population Density	5	2	2	2	2	2	2	2
(16) Municipal Water Use	9	3	3	3	3	3	3	3
(17) Industrial Water Use	9	0	0	0	0	0	0	0
(18) Fisheries Priority	8	6	6	6	6	6	6	6
(19) Hydro Potential	8	8	8	0	0	0	0	0
(20) Economic Pressure	7	5	5	5	5	5	5	5
(21) Flooding	8	4	4	0	0	0	0	0
(22) Water Quality	9	7	7	0	0	0	0	0
(23) Water Shortage Potential	10	(0)	(0)	(0)	(0)	(0)	(0)	(0)

WSC SUB-SUB-DIVISION 1AG

Priority Considerations	Maximum Available Points	Existing Stations 02H	Existing Stations 03B	Proposed Stations
A. Site Characteristics				
(1) Mean Annual Flow	6	2	4	
(2) Water Level Only	3	-	-	
(3) Quality of Record	15	9	12	
(4) Period of Record	10	3	5	
(5) Proximity to Climate Station	5	4	5	
B. Client Needs				
(I) Regional Hydrology:				
(6) Minimum Natural Flow Network	9/0	9	0	
(7) Regional Hydrology Priority Code	9	9	2	
(8) Long Term Index Monitoring	8	0	0	
(9) Special Regional Hydrology Needs	10	6	6	
(10) Client Priority	10	0	0	
(a) water supply (10)		(0)	(0)	
(b) other infrastructure (8)		(0)	(0)	
(c) flooding (6)		(0)	(0)	
(d) environmental impact (7)		(0)	(0)	
(e) fisheries (6)		(0)	(0)	
(f) energy (8)		(0)	(0)	
(g) navigation and recreation (5)		(0)	(0)	
(11) Serves Operational and Regional Hydrology Needs	12/0	12	12	
II - Operational (regulated site special)				
(12) Federal Formal Commitments	10	0	0	
(13) Provincial Formal Commitments	10	0	0	
(14) Client Priority	10	2	5	
(a) water supply (8)		(0)	(0)	
(b) other infrastructure (5)		(0)	(0)	
(c) flooding (9)		(8)	(8)	
(d) environmental impact (8)		(0)	(0)	
(e) fisheries (7)		(0)	(7)	
(f) energy (8)		(0)	(8)	
(g) navigation and recreation (5)		(0)	(0)	
C. Regional Importance of Resource				
(15) Population Density	5	4	4	
(16) Municipal Water Use	9	0	0	
(17) Industrial Water Use	9	0	0	
(18) Fisheries Priority	8	8	8	
(19) Hydro Potential	8	0	0	
(20) Economic Pressure	7	0	0	
(21) Flooding	8	0	6	
(22) Water Quality	9	5	7	
(23) Water Shortage Potential	10	0	0	

WSC SUB-SUB-DIVISION 1AH

Priority Considerations	Maximum Available Points	Existing Stations 02H	03H	04H	05H	Proposed Stations P1H
A. Site Characteristics						
(1) Mean Annual Flow	6	4	4	4	2	2
(2) Water Level Only	3	-	-	-	-	-
(3) Quality of Record	15	12	12	7	7	10
(4) Period of Record	10	7	7	7	5	10
(5) Proximity to Climate Station	5	3	3	3	5	4
B. Client Needs						
(I) Regional Hydrology:						
(6) Minimum Natural Flow Network	9/0	0	0	0	9	9
(7) Regional Hydrology Priority Code	9	0	0	0	5	7
(8) Long Term Index Monitoring	8	0	0	0	4	0
(9) Special Regional Hydrology Needs	10	0	0	0	5	10
(10) Client Priority	10	0	0	0	1	0
(a) water supply (10)		(0)	(0)	(0)	(0)	(0)
(b) other infrastructure (8)		(0)	(0)	(0)	(4)	(0)
(c) flooding (6)		(0)	(0)	(0)	(0)	(0)
(d) environmental impact (7)		(0)	(0)	(0)	(0)	(0)
(e) fisheries (6)		(0)	(0)	(0)	(0)	(0)
(f) energy (8)		(0)	(0)	(0)	(0)	(0)
(g) navigation and recreation (5)		(0)	(0)	(0)	(0)	(0)
(11) Serves Operational and Regional Hydrology Needs	12/0	0	0	0	12	12
II - Operational (regulated/site specific)						
(12) Federal Formal Commitments	10	0	0	0	0	0
(13) Provincial Formal Commitments	10	0	0	0	0	0
(14) Client Priority	10	4	4	4	1	2
(a) water supply (8)		(0)	(4)	(0)	(0)	(0)
(b) other infrastructure (5)		(0)	(0)	(0)	(0)	(0)
(c) flooding (9)		(6)	(6)	(6)	(8)	(0)
(d) environmental impact (8)		(4)	(4)	(3)	(0)	(0)
(e) fisheries (7)		(4)	(0)	(4)	(0)	(0)
(f) energy (8)		(4)	(8)	(8)	(0)	(0)
(g) navigation and recreation (5)		(0)	(0)	(0)	(0)	(0)
C. Regional Importance of Resource						
(15) Population Density	5	1	1	1	1	1
(16) Municipal Water Use	9	2	2	2	2	2
(17) Industrial Water Use	9	1	1	1	1	1
(18) Fisheries Priority	8	5	5	5	5	5
(19) Hydro Potential	8	4	4	4	4	4
(20) Economic Pressure	7	0	0	0	0	0
(21) Flooding	8	2	2	2	2	2
(22) Water Quality	9	4	4	4	4	4
(23) Water Shortage Potential	10	0	0	0	0	0

WSC SUB-SUB-DIVISION 1AJ

Priority Considerations	Maximum Available Points	Existing Stations 01E	03E	04E	09WL	10E	11E	08WL	Proposed Stations
A. Site Characteristics									
(1) Mean Annual Flow	6	6	4	2	-	2	2	-	
(2) Water Level Only	3	-	-	-	3	-	-	3	
(3) Quality of Record	15	11	13	13	12	11	9	12	
(4) Period of Record	10	7	3	3	5	5	5	5	
(5) Proximity to Climate Station	5	5	4	3	-	3	1	-	
B. Client Needs									
(I) Regional Hydrology:									
(6) Minimum Natural Flow Network	9/0	0	9	0	-	0	0	0	
(7) Regional Hydrology Priority Code	9	2	8	7	-	4	8	0	
(8) Long Term Index Monitoring8	8	0	2	0	0	0	0	0	
(9) Special Regional Hydrology Needs	10	4	8	0	7	0	4	7	
(10) Client Priority	10	4	2	0	0	0	0	0	
(a) water supply (10)		(4)	(0)	(0)	(0)	(0)	(0)	(0)	
(b) other infrastructure (8)		(6)	(3)	(0)	(0)	(0)	(0)	(0)	
(c) flooding (6)		(4)	(4)	(0)	(0)	(0)	(0)	(0)	
(d) environmental impact (7)		(5)	(0)	(0)	(0)	(0)	(0)	(0)	
(e) fisheries (6)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	
(f) energy (8)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	
(g) navigation and recreation (5)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	
(11) Serves Operational and Regional Hydrology Needs	12/0	12	12	12	12	12	12	12	
II - Operational (regulated/site specific)									
(12) Federal Formal Commitments	10	0	0	0	0	0	0	0	
(13) Provincial Formal Commitments	10	0	0	0	0	0	0	0	
(14) Client Priority	10	3	3	2	2	2	2	3	
(a) water supply (8)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	
(b) other infrastructure (5)		(0)	(0)	(0)	(3)	(0)	(0)	(4)	
(c) flooding (9)		(6)	(8)	(6)	(8)	(8)	(8)	(8)	
(d) environmental impact (8)		(0)	(0)	(4)	(0)	(0)	(0)	(0)	
(e) fisheries (7)		(0)	(0)	(0)	(0)	(0)	(0)	(4)	
(f) energy (8)		(8)	(6)	(0)	(0)	(0)	(0)	(0)	
(g) navigation and recreation (5)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	
C. Regional Importance of Resource									
(15) Population Density	5	3	3	3	3	3	3	3	
(16) Municipal Water Use	9	2	2	2	2	2	2	2	
(17) Industrial Water Use	9	3	1	1	3	1	1	3	
(18) Fisheries Priority	8	6	6	6	6	6	6	6	
(19) Hydro Potential	8	0	0	0	0	0	0	0	
(20) Economic Pressure	7	0	0	0	0	0	0	0	
(21) Flooding	8	8	8	8	8	8	8	8	
(22) Water Quality	9	7	7	7	7	7	7	7	
(23) Water Shortage Potential	10	0	0	0	0	0	0	0	

WSC SUB-SUB-DIVISION 1AK

Priority Considerations	Maximum Available Points	Existing Stations 01W	03WL	04R	05W	06W	07W	08W	09WL	Proposed Stations P1W
A. Site Characteristics										
(1) Mean Annual Flow	6	2	-	6	2	2	2	2	-	2
(2) Water Level Only	3	-	3	-	-	-	-	-	3	-
(3) Quality of Record	15	13	12	12	8	13	11	12	12	10
(4) Period of Record	10	10	10	3	3	3	3	5	7	10
(5) Proximity to Climate Station	5	5	-	5	5	5	5	3	-	5
B. Client Needs										
(I) Regional Hydrology:										
(6) Minimum Natural Flow Network	9/0	9	-	0	0	0	0	9	-	0
(7) Regional Hydrology Priority Code	9	5	-	4	7	0	9	8	-	7
(8) Long Term Index Monitoring	8	8	8	8	0	0	0	0	0	0
(9) Special Regional hydrology Needs	10	4	8	8	8	10	4	0	0	8
(10) Client Priority	10	1	4	5	0	0	0	0	0	0
(a) water supply (10)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
(b) other infrastructure (8)		(0)	(4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
(c) flooding (6)		(4)	(6)	(6)	(0)	(0)	(0)	(0)	(0)	(0)
(d) environmental impact (7)		(0)	(6)	(6)	(0)	(0)	(0)	(0)	(0)	(0)
(e) fisheries (6)		(0)	(0)	(4)	(0)	(0)	(0)	(0)	(0)	(0)
(f) energy (8)		(0)	(0)	(6)	(0)	(0)	(0)	(0)	(0)	(0)
(g) navigation and recreation (5)		(0)	(3)	(4)	(0)	(0)	(0)	(0)	(0)	(0)
(11) Serves Operational and Regional Hydrology Needs	12/0	12	12	12	0	0	12	12	0	12
II - Operational (regulated/site specific)										
(12) Federal Formal Commitments	10	0	0	0	0	0	0	0	0	0
(13) Provincial Formal Commitments	10	0	0	0	0	0	0	0	0	0
(14) Client Priority	10	2	2	3	0	0	2	3	3	2
(a) water supply (8)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
(b) other infrastructure (5)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
(c) flooding (9)		(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)
(d) environmental impact (8)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
(e) fisheries (7)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(5)	(0)
(f) energy (8)		(4)	(0)	(8)	(0)	(0)	(0)	(4)	(6)	(8)
(g) navigation and recreation (5)		(0)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
C. Regional Importance of Resource										
(15) Population Density	5	3	3	3	3	3	3	3	3	3
(16) Municipal Water Use	9	2	2	2	2	2	2	2	2	2
(17) Industrial Water Use	9	6	6	6	1	1	1	1	6	1
(18) Fisheries Priority	8	5	5	5	5	5	5	5	5	5
(19) Hydro Potential	8	0	0	0	0	0	0	0	0	0
(20) Economic Pressure	7	5	5	5	5	5	5	5	5	5
(21) Flooding	8	8	8	8	8	8	8	8	8	8
(22) Water Quality	9	5	5	5	5	5	5	5	5	5
(23) Water Shortage Potential	10	2	2	2	2	2	2	2	2	2

WSC SUB-SUB-DIVISION 1AL

Priority Considerations	Maximum Available Points	Existing Stations 02W	03W	04W	08W	Proposed Stations
A. Site Characteristics						
(1) Mean Annual Flow	6	4	2	2	2	
(2) Water Level Only	3	-	-	-	-	
(3) Quality of Record	15	13	12	11	12	
(4) Period of Record	10	7	3	5	10	
(5) Proximity to Climate Station	5	4	5	5	4	
B. Client Needs						
(I) Regional Hydrology:						
(6) Minimum Natural Flow Network	9/0	9	9	0	0	
(7) Regional Hydrology Priority Code	9	9	9	0	3	
(8) Long Term Index Monitoring	8	0	0	0	0	
(9) Special Regional Hydrology Needs	10	8	10	10	0	
(10) Client Priority	10	2	1	1	2	
(a) water supply (10)		(0)	(0)	(0)	(0)	
(b) other infrastructure (8)		(0)	(0)	(0)	(0)	
(c) flooding (6)		(6)	(0)	(0)	(6)	
(d) environmental impact (7)		(0)	(4)	(4)	(0)	
(e) fisheries (6)		(4)	(3)	(3)	(4)	
(f) energy (8)		(0)	(0)	(0)	(0)	
(g) navigation and recreation (5)		(0)	(0)	(0)	(0)	
(11) Serves Operational and Regional Hydrology Needs	12/0	12	0	0	12	
II - Operational (regulated/site specific)						
(12) Federal Formal Commitments	10	0	0	0	0	
(13) Provincial Formal Commitments	10	0	0	0	0	
(14) Client Priority	10	2	0	0	2	
(a) water supply (8)		(0)	(0)	(0)	(0)	
(b) other infrastructure (5)		(0)	(0)	(0)	(0)	
(c) flooding (9)		(8)	(0)	(0)	(8)	
(d) environmental impact (8)		(0)	(0)	(0)	(0)	
(e) fisheries (7)		(0)	(0)	(0)	(0)	
(f) energy (8)		(0)	(0)	(0)	(0)	
(g) navigation and recreation (5)		(0)	(0)	(0)	(0)	
C. Regional Importance of Resource						
(15) Population Density	5	2	2	2	2	
(16) Municipal Water Use	9	0	0	0	0	
(17) Industrial Water Use	9	0	0	0	0	
(18) Fisheries Priority	8	3	3	3	3	
(19) Hydro Potential	8	0	0	0	0	
(20) Economic Pressure	7	0	0	0	0	
(21) Flooding	8	7	7	7	7	
(22) Water Quality	9	1	1	1	1	
(23) Water Shortage Potential	10	1	1	1	1	

WSC SUB-SUB-DIVISION 1AM

Priority Considerations	Maximum Available Points	Existing Stations 01M	Proposed Stations
A. Site Characteristics			
(1) Mean Annual Flow	6	2	
(2) Water Level Only	3	-	
(3) Quality of Record	15	12	
(4) Period of Record	10	3	
(5) Proximity to Climate Station	5	3	
B. Client Needs			
(I) Regional Hydrology:			
(6) Minimum Natural Flow Network	9/0	9	
(7) Regional Hydrology Priority Code	9	6	
(8) Long Term Index Monitoring	8	0	
(9) Special Regional Hydrology Needs	10	0	
(10) Client Priority	10	1	
(a) water supply (10)		(0)	
(b) other infrastructure (8)		(0)	
(c) flooding (6)		(0)	
(d) environmental impact (7)		(6)	
(e) fisheries (6)		(0)	
(f) energy (8)		(0)	
(g) navigation and recreation (5)		(0)	
(11) Serves Operational and Regional Hydrology Needs	12/0	12	
II - Operational (regulated/site specific)			
(12) Federal Formal Commitments	10	0	
(13) Provincial Formal Commitments	10	0	
(14) Client Priority	10	2	
(a) water supply (8)		(0)	
(b) other infrastructure (5)		(0)	
(c) flooding (9)		(8)	
(d) environmental impact (8)		(0)	
(e) fisheries (7)		(0)	
(f) energy (8)		(0)	
(g) navigation and recreation (5)		(3)	
C. Regional Importance of Resource			
(15) Population Density	5	2	
(16) Municipal Water Use	9	0	
(17) Industrial Water Use	9	0	
(18) Fisheries Priority	8	2	
(19) Hydro Potential	8	0	
(20) Economic Pressure	7	3	
(21) Flooding	8	8	
(22) Water Quality	9	5	
(23) Water Shortage Potential	10	2	

WSC SUB-SUB-DIVISION 1AH

Priority Considerations	Maximum Available Points	Existing Stations 01H	02H	Proposed Stations
A. Site Characteristics				
(1) Mean Annual Flow	6	2	2	
(2) Water Level Only	3	-	-	
(3) Quality of Record	15	9	13	
(4) Period of Record	10	5	5	
(5) Proximity to Climate Station	5	3	1	
B. Client Needs				
(I) Regional Hydrology:				
(6) Minimum Natural Flow Network	9/0	9	9	
(7) Regional Hydrology Priority Code	9	8	5	
(8) Long Term Index Monitoring	8	0	0	
(9) Special Regional Hydrology Needs	10	10	0	
(10) Client Priority	10	0	1	
(a) water supply (10)		(0)	(0)	
(b) other infrastructure (8)		(0)	(0)	
(c) flooding (6)		(0)	(0)	
(d) environmental impact (7)		(0)	(6)	
(e) fisheries (6)		(0)	(0)	
(f) energy (8)		(0)	(0)	
(g) navigation and recreation (5)		(0)	(0)	
(11) Serves Operational and Regional Hydrology Needs	12/0	0	12	
II - Operational (regulated/site specific)				
(12) Federal Formal Commitments	10	0	0	
(13) Provincial Formal Commitments	10	0	0	
(14) Client Priority	10	0	2	
(a) water supply (8)		(0)	(0)	
(b) other infrastructure (5)		(0)	(0)	
(c) flooding (9)		(0)	(8)	
(d) environmental impact (8)		(0)	(0)	
(e) fisheries (7)		(0)	(0)	
(f) energy (8)		(0)	(0)	
(g) navigation and recreation (5)		(0)	(0)	
C. Regional Importance of Resource				
(15) Population Density	5	1	1	
(16) Municipal Water Use	9	0	0	
(17) Industrial Water Use	9	0	0	
(18) Fisheries Priority	8	6	6	
(19) Hydro Potential	8	0	0	
(20) Economic Pressure	7	2	2	
(21) Flooding	8	4	4	
(22) Water Quality	9	4	4	
(23) Water Shortage Potential	10	0	0	

WSC RVR-RVR-DIVISION 1AO

Priority Considerations	Maximum Available Points	Existing Stations 02WL	03WL	04WL	09W	10WL	Proposed Stations P1W
A. Site Characteristics							
(1) Mean Annual Flow	6	-	-	-	2	-	2
(2) Water Level Only	3	3	3	3	-	3	-
(3) Quality of Record	15	11	12	12	8	12	9
(4) Period of Record	10	3	3	3	5	7	10
(5) Proximity to Climate Station	5	-	-	-	4	-	5
B. Client Needs							
(I) Regional Hydrology:							
(6) Minimum Natural Flow Network	9/0	0	0	0	0	0	9
(7) Regional Hydrology Priority Code	9	0	0	0	7	0	7
(8) Long Term Index Monitoring	8	0	0	0	0	0	0
(9) Special Regional Hydrology Needs	10	6	0	4	10	0	10
(10) Client Priority	10	3	1	2	0	0	0
(a) water supply (10)		(0)	(0)	(0)	(0)	(0)	(0)
(b) other infrastructure (8)		(3)	(0)	(2)	(0)	(0)	(0)
(c) flooding (6)		(5)	(0)	(4)	(0)	(0)	(0)
(d) environmental impact (7)		(3)	(4)	(2)	(0)	(0)	(0)
(e) fisheries (6)		(0)	(0)	(0)	(0)	(0)	(0)
(f) energy (8)		(0)	(0)	(0)	(0)	(0)	(0)
(g) navigation and recreation (5)		(4)	(0)	(3)	(0)	(3)	(0)
(11) Serves Operational and Regional Hydrology Needs	12/0	12	12	12	0	12	0
II - Operational (regulated/site specific)							
(12) Federal Formal Commitments	10	0	0	0	0	0	0
(13) Provincial Formal Commitments	10	0	0	0	0	0	0
(14) Client Priority	10	2	2	2	0	0	0
(a) water supply (8)		(0)	(0)	(0)	(0)	(0)	(0)
(b) other infrastructure (5)		(0)	(0)	(0)	(0)	(0)	(0)
(c) flooding (9)		(9)	(9)	(9)	(0)	(8)	(0)
(d) environmental impact (8)		(0)	(0)	(0)	(0)	(0)	(0)
(e) fisheries (7)		(0)	(3)	(0)	(0)	(0)	(0)
(f) energy (8)		(0)	(0)	(0)	(0)	(0)	(0)
(g) navigation and recreation (5)		(2)	(0)	(2)	(0)	(0)	(0)
C. Regional Importance of Resource							
(15) Population Density	5	2	2	2	2	2	2
(16) Municipal Water Use	9	3	3	3	3	3	3
(17) Industrial Water Use	9	1	1	1	1	1	1
(18) Fisheries Priority	8	4	4	4	4	4	4
(19) Hydro Potential	8	0	0	0	0	0	0
(20) Economic Pressure	7	1	1	1	1	1	1
(21) Flooding	8	8	8	8	8	8	8
(22) Water Quality	9	7	7	7	7	7	7
(23) Water Shortage Potential	10	0	0	0	0	0	0

WRC HYD-HYD-DIVISION 1AP

Priority Considerations	Maximum Available Points	Existing Stations					Proposed Stations		
		02N	03ML	04N	05ML	06N	P1N	P2N	P3N
A. Site Characteristics:									
(1) Mean Annual Flow	6	2	-	4	-	2	2	2	2
(2) Water Level Only	3	-	3	-	3	-	-	-	-
(3) Quality of Record	15	13	12	13	10	13	10	10	10
(4) Period of Record	10	10	10	7	3	5	10	10	10
(5) Proximity to Climate Station	5	2	-	5	-	2	5	4	4
B. Client Needs									
(I) Regional Hydrology:									
(6) Minimum Natural Flow Network	9/0	9	0	9	-	9	9	0	0
(7) Regional Hydrology Priority Code	9	4	-	6	-	6	7	7	7
(8) Long Term Index Monitoring	8	8	4	0	0	0	0	0	0
(9) Special Regional Hydrology Needs	10	0	4	8	8	0	8	10	10
(10) Client Priority	10	0	2	4	3	0	1	0	0
(a) water supply (10)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
(b) other infrastructure (8)		(0)	(0)	(5)	(2)	(0)	(0)	(0)	(0)
(c) flooding (6)		(0)	(4)	(6)	(4)	(0)	(0)	(0)	(3)
(d) environmental impact (7)		(0)	(2)	(0)	(4)	(0)	(0)	(0)	(0)
(e) fisheries (6)		(0)	(0)	(4)	(0)	(0)	(0)	(0)	(0)
(f) energy (8)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
(g) navigation and recreation (5)		(0)	(4)	(4)	(4)	(0)	(0)	(0)	(0)
(11) Serves Operational and Regional Hydrology Needs	12/0	0	12	12	12	0	12	0	0
II - Operational (regulated/site specific)									
(12) Federal Formal Commitments	10	0	0	0	0	0	0	0	0
(13) Provincial Formal Commitments	10	0	0	0	0	0	0	0	0
(14) Client Priority	10	1	2	2	3	0	2	0	0
(a) water supply (8)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
(b) other infrastructure (5)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
(c) flooding (9)		(6)	(9)	(9)	(9)	(0)	(0)	(0)	(9)
(d) environmental impact (8)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
(e) fisheries (7)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
(f) energy (8)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
(g) navigation and recreation (5)		(0)	(0)	(0)	(5)	(0)	(0)	(0)	(0)
C. Regional Importance of Resource									
(15) Population Density	5	2	4	2	5	2	2	1	2
(16) Municipal Water Use	9	2	4	2	4	2	2	2	2
(17) Industrial Water Use	9	2	4	2	4	2	2	2	2
(18) Fisheries Priority	8	4	4	4	4	4	4	4	4
(19) Hydro Potential	8	0	0	0	0	0	0	0	0
(20) Economic Pressure	7	2	7	2	7	2	2	2	0
(21) Flooding	8	7	7	7	7	7	7	7	7
(22) Water Quality	9	0	0	9	9	0	9	0	0
(23) Water Shortage Potential	10	4	4	4	4	4	4	4	4

WSC SUB-SUB-DIVISION 1AQ

Priority Considerations	Maximum Available Points	Existing Stations 01B	02B	07WL	08B	09WL	Proposed Stations P1B
A. Site Characteristics							
(1) Mean Annual Flow	6	2	4	-	2	-	2
(2) Water Level Only	3	-	-	3	-	3	-
(3) Quality of Record	15	13	13	12	11	12	12
(4) Period of Record	10	10	10	7	10	10	10
(5) Proximity to Climate Station	5	3	2	-	1	-	4
B. Client Needs							
(I) Regional Hydrology:							
(6) Minimum Natural Flow Network	9/0	9	0	-	0	0	0
(7) Regional Hydrology Priority Code	9	8	2	-	3	-	0
(8) Long Term Index Monitoring	8	8	0	0	0	0	0
(9) Special Regional Hydrology Needs	10	6	0	0	0	0	0
(10) Client Priority	10	1	3	0	0	0	4
(a) water supply (10)		(0)	(0)	(0)	(0)	(0)	(8)
(b) other infrastructure (8)		(0)	(0)	(0)	(0)	(0)	(0)
(c) flooding (6)		(0)	(4)	(0)	(0)	(0)	(0)
(d) environmental impact (7)		(0)	(0)	(0)	(0)	(0)	(0)
(e) fisheries (6)		(0)	(4)	(0)	(0)	(0)	(3)
(f) energy (8))		(0)	(0)	(0)	(0)	(0)	(4)
(g) navigation and recreation (5)		(4)	(8)	(0)	(0)	(0)	(3)
(11) Serves Operational and Regional Hydrology Needs	12/0	0	0	0	0	0	12
II - Operational (regulated/site specific)							
(12) Federal Formal Commitments	10	0	0	0	0	0	0
(13) Provincial Formal Commitments	10	0	0	10	0	8	0
(14) Client Priority	10	0	0	2	0	0	1
(a) water supply (8)		(0)	(0)	(0)	(0)	(0)	(0)
(b) other infrastructure (5)		(0)	(0)	(0)	(0)	(0)	(0)
(c) flooding (9)		(0)	(0)	(0)	(0)	(0)	(0)
(d) environmental impact (8)		(0)	(0)	(0)	(0)	(0)	(0)
(e) fisheries (7)		(0)	(0)	(0)	(0)	(0)	(3)
(f) energy (8)		(0)	(0)	(8)	(0)	(0)	(0)
(g) navigation and recreation (5)		(0)	(0)	(0)	(0)	(0)	(0)
C. Regional Importance of Resource							
(15) Population Density	5	1	1	1	1	1	1
(16) Municipal Water Use	9	0	0	0	0	0	9
(17) Industrial Water Use	9	3	0	0	0	0	9
(18) Fisheries Priority	8	3	0	0	0	0	5
(19) Hydro Potential	8	4	4	4	4	4	4
(20) Economic Pressure	7	3	3	3	3	3	3
(21) Flooding	8	5	5	5	5	5	5
(22) Water Quality	9	5	5	5	5	5	5
(23) Water Shortage Potential	10	1	1	1	1	1	1

WSC SUB-SUB-DIVISION 1AS

Priority Considerations	Maximum Available Points	Existing Stations								Proposed Stations	
		04B	05B	04M	09MA	10MA	11B	12B	13MA	P1B	P2B
A. Site Characteristics											
(1) Mean Annual Flow	6	2	4	2	-	-	2	2	-	2	2
(2) Water Level Only	3	-	-	-	3	3	-	-	3	-	-
(3) Quality of Record	15	13	13	11	14	14	13	8	14	11	9
(4) Period of Record	10	10	7	3	3	3	3	3	7	10	10
(5) Proximity to Climate Station	5	2	3	3	0	0	0	0	0	1	2
B. Client Needs											
(I) Regional Hydrology:											
(6) Minimum Natural Flow Network	9/0	0	0	9	0	0	0	0	0	9	9
(7) Regional Hydrology Priority Code	9	0	0	5	0	0	0	0	0	7	7
(8) Long Term Index Monitoring	8	0	0	0	0	0	0	0	0	0	0
(9) Special Regional Hydrology Needs	10	0	6	9	0	0	0	0	0	0	10
(10) Client Priority	10	3	2	2	3	2	1	3	2	0	0
(a) water supply (10)		(0)	(0)	(10)	(0)	(2)	(0)	(10)	(0)	(0)	(0)
(b) other infrastructure (8)		(2)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
(c) flooding (6)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
(d) environmental impact (7)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
(e) fisheries (6)		(5)	(0)	(0)	(6)	(0)	(0)	(3)	(3)	(0)	(0)
(f) energy (8)		(4)	(7)	(0)	(4)	(4)	(7)	(0)	(4)	(0)	(0)
(g) navigation and recreation (5)		(4)	(0)	(0)	(3)	(3)	(0)	(0)	(3)	(0)	(0)
(11) Serves Operational and Regional Hydrology Needs	12/0	12	12	0	12	12	12	12	12	0	0
II - Operational (regulated/site specific)											
(12) Federal Formal Commitments	10	10	5	0	10	10	10	0	10	0	0
(13) Provincial Formal Commitments	10	0	0	10	0	0	0	10	0	0	0
(14) Client Priority	10	3	4	0	3	3	2	1	3	0	0
(a) water supply (8)		(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)
(b) other infrastructure (5)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
(c) flooding (9)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
(d) environmental impact (8)		(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
(e) fisheries (7)		(7)	(5)	(0)	(6)	(5)	(0)	(0)	(7)	(0)	(0)
(f) energy (8)		(8)	(8)	(0)	(8)	(8)	(8)	(0)	(8)	(0)	(0)
(g) navigation and recreation (5)		(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(0)
C. Regional Importance of Resource											
(15) Population Density	5	2	2	2	2	2	2	2	2	2	2
(16) Municipal Water Use	9	0	0	6	0	0	0	6	0	0	0
(17) Industrial Water Use	9	9	9	2	9	9	9	9	9	0	0
(18) Fisheries Priority	8	3	3	3	3	3	3	3	3	3	3
(19) Hydro Potential	8	4	4	0	4	4	4	0	4	0	0
(20) Economic Pressure	7	3	3	3	3	3	3	5	3	3	3
(21) Flooding	8	1	3	1	1	1	1	1	1	1	1
(22) Water Quality	9	4	7	7	7	7	7	7	7	0	0
(23) Water Shortage Potential	10	6	6	7	6	6	8	8	6	6	6

WHC SUB-SUB-DIVISION 13A

Priority Considerations	Maximum Available Points	Existing Stations	Proposed Stations
		P1B	
A. Site Characteristics			
(1) Mean Annual Flow	6	2	
(2) Water Level Only	3	-	
(3) Quality of Record	15	9	
(4) Period of Record	10	10	
(5) Proximity to Climate Station	5	4	
B. Client Needs			
(I) Regional Hydrology:			
(6) Minimum Natural Flow Network	9/0	0	
(7) Regional Hydrology Priority Code	9	7	
(8) Long Term Index Monitoring	8	0	
(9) Special Regional Hydrology Needs	10	8	
(10) Client Priority	10	2	
(a) water supply (10)		(5)	
(b) other infrastructure (8)		(4)	
(c) flooding (6)		(0)	
(d) environmental impact (7)		(0)	
(e) fisheries (6)		(2)	
(f) energy (8)		(0)	
(g) navigation and recreation (5)		(0)	
(11) Serves Operational and Regional Hydrology Needs	12/0	0	
II - Operational (regulated/site specific)			
(12) Federal Formal Commitments	10	0	
(13) Provincial Formal Commitments	10	0	
(14) Client Priority	10	0	
(a) water supply (8)		(0)	
(b) other infrastructure (5)		(0)	
(c) flooding (9)		(0)	
(d) environmental impact (8)		(0)	
(e) fisheries (7)		(0)	
(f) energy (8)		(0)	
(g) navigation and recreation (5)		(0)	
C. Regional Importance of Resource			
(15) Population Density	5	1	
(16) Municipal Water Use	9	3	
(17) Industrial Water Use	9	0	
(18) Fisheries Priority	8	8	
(19) Hydro Potential	8	0	
(20) Economic Pressure	7	0	
(21) Flooding	8	0	
(22) Water Quality	9	1	
(23) Water Shortage Potential	10	1	

WSC SUB-SUB-DIVISION 1BB

Priority Considerations	Maximum Available Points	Existing Stations	Proposed Stations P1B
A. Site Characteristics			
(1) Mean Annual Flow	6		2
(2) Water Level Only	3		-
(3) Quality of Record	15		10
(4) Period of Record	10		10
(5) Proximity to Climate Station	5		2
B. Client Needs			
(I) Regional Hydrology:			
(6) Minimum Natural Flow Network	9/0		9
(7) Regional Hydrology Priority Code	9		7
(8) Long Term Index Monitoring	8		0
(9) Special Regional Hydrology Needs	10		8
(10) Client Priority	10		1
(a) water supply (10)			(0)
(b) other infrastructure (8)			(2)
(c) flooding (6)			(0)
(d) environmental impact (7)			(0)
(e) fisheries (6)			(2)
(f) energy (8)			(0)
(g) navigation and recreation (5)			(0)
(11) Serves Operational and Regional Hydrology Needs	12/0		0
II - Operational (regulated/site specific)			
(12) Federal Formal Commitments	10		0
(13) Provincial Formal Commitments	10		0
(14) Client Priority	10		0
(a) water supply (8)			(0)
(b) other infrastructure (5)			(0)
(c) flooding (9)			(0)
(d) environmental impact (8)			(0)
(e) fisheries (7)			(0)
(f) energy (8)			(0)
(g) navigation and recreation (5)			(0)
C. Regional Importance of Resource			
(15) Population Density	5		1
(16) Municipal Water Use			0
(17) Industrial Water Use	9		0
(18) Fisheries Priority	8		7
(19) Hydro Potential	8		0
(20) Economic Pressure	7		0
(21) Flooding	8		0
(22) Water Quality	9		1
(23) Water Shortage Potential	10		0

WRC SUB-SUB-DIVISION 10C

Priority Considerations	Maximum Available Points	Existing Stations 01H	Proposed Stations
A. Site Characteristics			
(1) Mean Annual Flow	6	4	
(2) Water Level Only	3	-	
(3) Quality of Record	15	12	
(4) Period of Record	10	3	
(5) Proximity to Climate Station	5	3	
B. Client Needs			
(I) Regional Hydrology:			
(6) Minimum Natural Flow Network	9/0	9	
(7) Regional Hydrology Priority Code	9	8	
(8) Long Term Index Monitoring	8	0	
(9) Special Regional Hydrology Needs	10	4	
(10) Client Priority	10	0	
(a) water supply (10)		(0)	
(b) other infrastructure (8)		(0)	
(c) flooding (6)		(0)	
(d) environmental impact (7)		(0)	
(e) fisheries (6)		(0)	
(f) energy (8)		(0)	
(g) navigation and recreation (5)		(0)	
(11) Serves Operational and Regional Hydrology Needs	12/0	12	
II - Operational (regulated/site specific)			
(12) Federal Formal Commitments	10	0	
(13) Provincial Formal Commitments	10	0	
(14) Client Priority	10	1	
(a) water supply (8)		(0)	
(b) other infrastructure (5)		(0)	
(c) flooding (6)		(0)	
(d) environmental impact (8)		(0)	
(e) fisheries (7)		(0)	
(f) energy (8)		(0)	
(g) navigation and recreation (5)		(3)	
C. Regional Importance of Resource			
(15) Population Density	5	1	
(16) Municipal Water Use	9	2	
(17) Industrial Water Use	9	0	
(18) Fisheries Priority	8	7	
(19) Hydro Potential	8	0	
(20) Economic Pressure	7	1	
(21) Flooding	8	3	
(22) Water Quality	9	1	
(23) Water Shortage Potential	1	0	

WRC SUB-SUB-DIVISION 1BE

Priority Considerations	Maximum Available Points	Existing Stations	Proposed Stations
		01E	01E
A. Site Characteristics			
(1) Mean Annual Flow	6	4	2
(2) Water Level Only	3	-	-
(3) Quality of Record	15	12	9
(4) Period of Record	10	10	10
(5) Proximity to Climate Station	5	2	3
B. Client Needs			
(I) Regional Hydrology:			
(6) Minimum Natural Flow Network	9/0	9	9
(7) Regional Hydrology Priority Code	9	7	7
(8) Long Term Index Monitoring	8	8	0
(9) Special Regional Hydrology Needs	10	5	5
(10) Client Priority	10	2	0
(a) water supply (10)		(0)	(0)
(b) other infrastructure (8)		(0)	(0)
(c) flooding (6)		(3)	(0)
(d) environmental impact (7)		(4)	(0)
(e) fisheries (6)		(2)	(0)
(f) energy (8)		(0)	(0)
(g) navigation and recreation (5)		(3)	(0)
(11) Serves Operational and Regional Hydrology Needs	12/0	0	0
II - Operational (regulated/site specific)			
(12) Federal Formal Commitments	10	0	0
(13) Provincial Formal Commitments	10	0	0
(14) Client Priority	10	0	0
(a) water supply (8)		(0)	(0)
(b) other infrastructure (5)		(0)	(0)
(c) flooding (9)		(0)	(0)
(d) environmental impact (8)		(0)	(0)
(e) fisheries (7)		(0)	(0)
(f) energy (8)		(0)	(0)
(g) navigation and recreation (5)		(0)	(0)
C. Regional Importance of Resource			
(15) Population Density	5	1	1
(16) Municipal Water Use	9	0	0
(17) Industrial Water Use	9	0	0
(18) Fisheries Priority	8	6	6
(19) Hydro Potential	8	4	4
(20) Economic Pressure	7	1	1
(21) Flooding	8	3	3
(22) Water Quality	9	4	4
(23) Water Shortage Potential	10	0	0

WSC SUB-SUB-DIVISION 1BJ

Priority Considerations	Maximum Available Points	Existing Stations 01W	03W	07W	09E	10W	11W	12W	Proposed Stations
A. Site Characteristics									
(1) Mean Annual Flow	6	2	2	6	2	2	2	2	
(2) Water Level Only	3	-	-	-	-	-	-	-	
(3) Quality of Record	15	11	11	11	11	11	10	11	
(4) Period of Record	10	10	3	3	10	10	10	10	
(5) Proximity to Climate Station	5	3	2	4	5	4	3	4	
B. Client Needs									
(I) Regional Hydrology:									
(6) Minimum Natural Flow Network	9/0	0	9	9	0	9	0	9	
(7) Regional Hydrology Priority Code	9	8	4	7	2	2	7	9	
(8) Long Term Index Monitoring	8	6	0	0	0	0	0	0	
(9) Special Regional Hydrology Needs	10	0	10	10	10	8	8	10	
(10) Client Priority	10	0	0	2	3	2	3	2	
(a) water supply (10)		(0)	(0)	(0)	(0)	(8)	(8)	(8)	
(b) other infrastructure (8)		(0)	(0)	(0)	(8)	(0)	(0)	(0)	
(c) flooding (6)		(0)	(0)	(6)	(6)	(4)	(0)	(0)	
(d) environmental impact (7)		(0)	(0)	(0)	(2)	(0)	(0)	(0)	
(e) fisheries (6)		(0)	(0)	(0)	(2)	(0)	(6)	(0)	
(f) energy (8)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	
(g) navigation and recreation (5)		(0)	(0)	(3)	(0)	(0)	(0)	(0)	
(11) Serves Operational and Regional Hydrology Needs	12/0	0	12	12	12	12	12	12	
II - Operational (regulated/site specific)									
(12) Federal Formal Commitments	10	0	0	0	0	0	0	0	
(13) Provincial Formal Commitments	10	0	0	0	0	0	0	0	
(14) Client Priority	10	0	2	2	1	2	2	2	
(a) water supply (8)		(0)	(8)	(0)	(0)	(8)	(8)	(8)	
(b) other infrastructure (5)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	
(c) flooding (9)		(0)	(0)	(9)	(3)	(0)	(0)	(0)	
(d) environmental impact (8)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	
(e) fisheries (7)		(0)	(4)	(0)	(0)	(0)	(0)	(0)	
(f) energy (8)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	
(g) navigation and recreation (5)		(0)	(0)	(0)	(0)	(0)	(0)	(0)	
C. Regional Importance of Resource									
(15) Population Density	5	4	4	4	4	4	4	4	
(16) Municipal Water Use	9	5	5	5	5	6	5	5	
(17) Industrial Water Use	9	9	9	3	7	9	3	3	
(18) Fisheries Priority	8	5	5	5	5	5	5	5	
(19) Hydro Potential	8	0	0	0	0	0	0	0	
(20) Economic Pressure	7	3	3	3	3	3	3	3	
(21) Flooding	8	0	0	6	8	0	0	0	
(22) Water Quality	9	6	6	6	6	6	6	6	
(23) Water Shortage Potential	10	8	8	8	8	8	8	8	

WSC SUB-SUB-DIVISION 1BE

Priority Considerations	Maximum Available Points	Existing Stations 03R	04W	Proposed Stations P1W
A. Site Characteristics				
(1) Mean Annual Flow	6	4	2	2
(2) Water Level Only	3	-	-	-
(3) Quality of Record	15	10	9	12
(4) Period of Record	10	10	10	10
(5) Proximity to Climate Station	5	4	4	2
B. Client Needs				
(I) Regional Hydrology:				
(6) Minimum Natural Flow Network	9/0	0	9	9
(7) Regional Hydrology Priority Code	9	0	7	7
(8) Long Term Index Monitoring	8	0	0	0
(9) Special Regional Hydrology Needs	10	6	10	0
(10) Client Priority	10	5	1	2
(a) water supply (10)		(5)	(0)	(3)
(b) other infrastructure (8)		(6)	(0)	(0)
(c) flooding (6)		(0)	(0)	(0)
(d) environmental impact (7)		(7)	(5)	(0)
(e) fisheries (6)		(0)	(0)	(0)
(f) energy (8)		(5)	(0)	(5)
(g) navigation and recreation (5)		(0)	(0)	(0)
(11) Serves Operational and Regional Hydrology Needs	12/0	12	0	0
II - Operational (regulated/site specific)				
(12) Federal Formal Commitments	10	0	0	0
(13) Provincial Formal Commitments	10	0	0	0
(14) Client Priority	10	1	0	0
(a) water supply (8)		(0)	(0)	(0)
(b) other infrastructure (5)		(0)	(0)	(0)
(c) flooding (9)		(0)	(0)	(0)
(d) environmental impact (8)		(0)	(0)	(0)
(e) fisheries (7)		(4)	(0)	(0)
(f) energy (8)		(0)	(0)	(0)
(g) navigation and recreation (5)		(0)	(0)	(0)
C. Regional Importance of Resource				
(15) Population Density	5	1	2	3
(16) Municipal Water Use	9	0	0	0
(17) Industrial Water Use	9	0	0	7
(18) Fisheries Priority	8	4	4	4
(19) Hydro Potential	8	4	4	4
(20) Economic Pressure	7	2	2	2
(21) Flooding	8	0	0	0
(22) Water Quality	9	6	6	6
(23) Water Shortage Potential	10	0	0	0

WRC SUB-SUB-DIVISION 1BL

Priority Considerations	Maximum Available Points	Existing Stations 01W	02W	03W	Proposed Stations P1W	P2W
A. Site Characteristics						
(1) Mean Annual Flow	6	2	2	2	2	2
(2) Water Level Only	3	-	-	-	-	-
(3) Quality of Record	15	9	12	12	10	10
(4) Period of Record	10	3	3	3	10	10
(5) Proximity to Climate Station	5	5	0	1	2	1
B. Client Needs						
(I) Regional Hydrology:						
(6) Minimum Natural Flow Network	9/0	0	9	9	9	0
(7) Regional Hydrology Priority Code	9	8	4	4	7	7
(8) Long Term Index Monitoring	8	3	3	0	0	0
(9) Special Regional Hydrology Needs	10	8	8	0	10	8
(10) Client Priority	10	0	1	0	0	0
(a) water supply (10)		(0)	(0)	(0)	(0)	(0)
(b) other infrastructure (8)		(0)	(0)	(0)	(0)	(0)
(c) flooding (6)		(0)	(7)	(0)	(0)	(0)
(d) environmental impact (7)		(0)	(0)	(0)	(0)	(0)
(e) fisheries (6)		(0)	(0)	(0)	(0)	(0)
(f) energy (8)		(0)	(0)	(0)	(0)	(0)
(g) navigation and recreation (5)		(0)	(0)	(0)	(0)	(0)
(11) Serves Operational and Regional Hydrology Needs	12/0	0	0	0	0	0
II - Operational (regulated/site specific)						
(12) Federal Formal Commitments	10	0	0	0	0	0
(13) Provincial Formal Commitments	10	0	0	0	0	0
(14) Client Priority	10	0	0	0	0	0
(a) water supply (8)		(0)	(0)	(0)	(0)	(0)
(b) other infrastructure (5)		(0)	(0)	(0)	(0)	(0)
(c) flooding (9)		(0)	(0)	(0)	(0)	(0)
(d) environmental impact (8)		(0)	(0)	(0)	(0)	(0)
(e) fisheries (7)		(0)	(0)	(0)	(0)	(0)
(f) energy (8)		(0)	(0)	(0)	(0)	(0)
(g) navigation and recreation (5)		(0)	(0)	(0)	(0)	(0)
C. Regional Importance of Resource						
(15) Population Density	5	4	4	4	4	4
(16) Municipal Water Use	9	2	2	2	2	2
(17) Industrial Water Use	9	3	3	3	3	3
(18) Fisheries Priority	8	2	2	2	2	2
(19) Hydro Potential	8	0	0	0	0	0
(20) Economic Pressure	7	1	1	1	1	1
(21) Flooding	8	3	0	0	0	0
(22) Water Quality	9	4	4	4	4	4
(23) Water Shortage Potential	10	5	8	5	5	5

WSC SUB-SUB-DIVISION 1JM

Priority Considerations	Maximum Available Points	Existing Stations	Proposed Stations 1JM
A. Site Characteristics			
(1) Mean Annual Flow	6		2
(2) Water Level Only	2		-
(3) Quality of Record	15		10
(4) Period of Record	10		10
(5) Proximity to Climate Station	5		4
B. Client Needs			
(I) Regional Hydrology:			
(6) Minimum Natural Flow Network	9/0		0
(7) Regional Hydrology Priority Code	9		7
(8) Long Term Index Monitoring	8		0
(9) Special Regional Hydrology Needs	10		0
(10) Client Priority	10		2
(a) water supply (10)			(5)
(b) other infrastructure (8)			(4)
(c) flooding (6)			(3)
(d) environmental impact (7)			(0)
(e) fisheries (6)			(0)
(f) energy (8)			(0)
(g) navigation and recreation (5)			(0)
(11) Serves Operational and Regional Hydrology Needs	12/0		0
II - Operational (regulated/site specific)			
(12) Federal Formal Commitments	10		0
(13) Provincial Formal Commitments	10		0
(14) Client Priority	10		0
(a) water supply (8)			(0)
(b) other infrastructure (5)			(0)
(c) flooding (9)			(0)
(d) environmental impact (8)			(0)
(e) fisheries (7)			(0)
(f) energy (8)			(0)
(g) navigation and recreation (5)			(0)
C. Regional Importance of Resource			
(15) Population Density	5		1
(16) Municipal Water Use	9		0
(17) Industrial Water Use	9		0
(18) Fisheries Priority	8		4
(19) Hydro Potential	8		4
(20) Economic Pressure	7		0
(21) Flooding	8		3
(22) Water Quality	9		1
(23) Water Shortage Potential	10		0

WRC SUB-SUB-DIVISION 1BH

Priority Considerations	Maximum Available Points	Existing Stations		Proposed Stations P1H	Proposed Stations P2H
A. Site Characteristics					
(1) Mean Annual Flow	6			2	2
(2) Water Level Only	3			-	-
(3) Quality of Record				10	11
(4) Period of Record	10			10	10
(5) Proximity to Climate Station	5			1	1
B. Client Needs					
(I) Regional Hydrology:					
(6) Minimum Natural Flow Network	9/0			9	9
(7) Regional Hydrology Priority Code	9			7	7
(8) Long Term Index Monitoring	8			0	0
(9) Special Regional Hydrology Needs	10			0	5
(10) Client Priority	10			0	0
(a) water supply (10)				(0)	(0)
(b) other infrastructure (8)				(0)	(0)
(c) flooding (6)				(0)	(0)
(d) environmental impact (7)				(0)	(0)
(e) fisheries (6)				(0)	(0)
(f) energy (8)				(0)	(0)
(g) navigation and recreation (5)				(0)	(0)
(11) Serves Operational and Regional Hydrology Needs	12/0			0	0
II - Operational (regulated/site specific)					
(12) Federal Formal Commitments	10			0	0
(13) Provincial Formal Commitments	10			0	0
(14) Client Priority	10			0	0
(a) water supply (8)				(0)	(0)
(b) other infrastructure (5)				(0)	(0)
(c) flooding (9)				(0)	(0)
(d) environmental impact (8)				(0)	(0)
(e) fisheries (7)				(0)	(0)
(f) energy (8)				(0)	(0)
(g) navigation and recreation (5)				(0)	(0)
C. Regional Importance of Resource					
(15) Population Density	5	1	1		
(16) Municipal Water Use	9	1	1		
(17) Industrial Water Use	9	0	0		
(18) Fisheries Priority	8	4	4		
(19) Hydro Potential	8	0	0		
(20) Economic Pressure	7	0	0		
(21) Flooding	8	2	2		
(22) Water Quality	9	1	1		
(23) Water Shortage Potential	10	0	0		

WSC SUB-SUB-DIVISION 1B9

Priority Considerations	Maximum Available Points	Existing Stations 01W	02W	03W	04W	Proposed Stations P1W
A. Site Characteristics						
(1) Mean Annual Flow	6	4	2	2	2	2
(2) Water Level Only	3	-	-	-	-	-
(3) Quality of Record	15	12	12	12	12	12
(4) Period of Record	10	10	3	5	5	10
(5) Proximity to Climate Station	5	1	2	1	2	0
B. Client Needs						
(I) Regional Hydrology:						
(6) Minimum Natural Flow Network	9/0	9	9	9	0	9
(7) Regional Hydrology Priority Code	9	7	7	5	4	7
(8) Long Term Index Monitoring	8	8	0	0	0	0
(9) Special Regional Hydrology Needs	10	10	0	0	0	10
(10) Client Priority	10	3	0	0	0	0
(a) water supply (10)		(0)	(0)	(0)	(0)	(0)
(b) other infrastructure (8)		(5)	(0)	(0)	(0)	(0)
(c) flooding (6)		(3)	(0)	(0)	(0)	(0)
(d) environmental impact (7)		(0)	(0)	(0)	(0)	(0)
(e) fisheries (6)		(3)	(0)	(0)	(0)	(0)
(f) energy (8)		(0)	(0)	(0)	(0)	(0)
(g) navigation and recreation (5)		(2)	(0)	(0)	(0)	(0)
(11) Serves Operational and Regional Hydrology Needs	12/0	(0)	(0)	(0)	(0)	(0)
II - Operational (regulated/site specific)						
(12) Federal Formal Commitments	10	(0)	(0)	(0)	(0)	(0)
(13) Provincial Formal Commitments	10	(0)	(0)	(0)	(0)	(0)
(14) Client Priority	10	(0)	(0)	(0)	(0)	(0)
(a) water supply (8)		(0)	(0)	(0)	(0)	(0)
(b) other infrastructure (5)		(0)	(0)	(0)	(0)	(0)
(c) flooding (9)		(0)	(0)	(0)	(0)	(0)
(d) environmental impact (8)		(0)	(0)	(0)	(0)	(0)
(e) fisheries (7)		(0)	(0)	(0)	(0)	(0)
(f) energy (8)		(0)	(0)	(0)	(0)	(0)
(g) navigation and recreation (5)		(0)	(0)	(0)	(0)	(0)
C. Regional Importance of Resource						
(15) Population Density	5	2	2	2	2	2
(16) Municipal Water Use	9	1	1	1	1	1
(17) Industrial Water Use	9	9	3	3	2	2
(18) Fisheries Priority	8	6	6	6	6	6
(19) Hydro Potential	8	0	0	0	0	0
(20) Economic Pressure	7	5	5	5	5	5
(21) Flooding	8	4	2	2	0	0
(22) Water Quality	9	6	6	6	6	6
(23) Water Shortage Potential	10	7	7	7	7	7

WSC SUB-SUB-DIVIS. W 1BP

Priority Considerations	Maximum Available Points	Existing Stations O1W	Proposed Stations P1W
A. Site Characteristics			
(1) Mean Annual Flow	6	4	2
(2) Water Level Only	3	-	-
(3) Quality of Record	15	11	10
(4) Period of Record	10	7	10
(5) Proximity to Climate Station	5	2	0
B. Client Needs			
(I) Regional Hydrology:			
(6) Minimum Natural Flow Network	9/0	9	9
(7) Regional Hydrology Priority Code	9	9	7
(8) Long Term Index Monitoring	8	0	0
(9) Special Regional Hydrology Needs	10	0	10
(10) Client Priority	10	1	0
(a) water supply (10)		(0)	(0)
(b) other infrastructure (8)		(0)	(0)
(c) flooding (6)		(2)	(0)
(d) environmental impact (7)		(0)	(0)
(e) fisheries (6)		(0)	(0)
(f) energy (8)		(0)	(0)
(g) navigation and recreation (5)		(0)	(0)
(11) Serves Operational and Regional Hydrology Needs	12/0	0	0
II - Operational (regulated/site specific)			
(12) Federal Formal Commitments	10	0	0
(13) Provincial Formal Commitments	10	0	0
(14) Client Priority	10	0	0
(a) water supply (8)		(0)	(0)
(b) other infrastructure (5)		(0)	(0)
(c) flooding (9)		(0)	(0)
(d) environmental impact (8)		(0)	(0)
(e) fisheries (7)		(0)	(0)
(f) energy (8)		(0)	(0)
(g) navigation and recreation (5)		(0)	(0)
C. Regional Importance of Resource			
(15) Population Density	5	1	1
(16) Municipal Water Use	9	0	0
(17) Industrial Water Use	9	0	0
(18) Fisheries Priority	8	3	3
(19) Hydro Potential	8	0	0
(20) Economic Pressure	7	0	0
(21) Flooding	8	2	2
(22) Water Quality	9	3	3
(23) Water Shortage Potential	10	0	0

WSC SUB-SUB-DIVISION 1BQ

Priority Considerations	Maximum Available Points	Existing Stations QIW	Proposed Stations
A. Site Characteristics			
(1) Mean Annual Flow	6	2	
(2) Water Level Only	3	-	
(3) Quality of Record	15	12	
(4) Period of Record	10	7	
(5) Proximity to Climate Station	5	4	
B. Client Needs			
(I) Regional Hydrology:			
(6) Minimum Natural Flow Network	9/0	9	
(7) Regional Hydrology Priority Code	9	5	
(8) Long Term Index Monitoring	8	0	
(9) Special Regional Hydrology Needs	10	5	
(10) Client Priority	10	1	
(a) water supply (10)		(0)	
(b) other infrastructure (8)		(0)	
(c) flooding (6)		(0)	
(d) environmental impact (7)		(4)	
(e) fisheries (6)		(0)	
(f) energy (8)		(0)	
(g) navigation and recreation (5)		(0)	
(11) Serves Operational and Regional Hydrology Needs	12/0	0	
II - Operational (regulated/site specific)			
(12) Federal Formal Commitments	10	0	
(13) Provincial Formal Commitments	10	0	
(14) Client Priority	10	0	
(a) water supply (8)		(0)	
(b) other infrastructure (5)		(0)	
(c) flooding (9)		(0)	
(d) environmental impact (8)		(0)	
(e) fisheries (7)		(0)	
(f) energy (8)		(0)	
(g) navigation and recreation (5)		(0)	
C. Regional Importance of Resource			
(15) Population Density	5	1	
(16) Municipal Water Use	9	0	
(17) Industrial Water Use	9	0	
(18) Fisheries Priority	8	5	
(19) Hydro Potential	8	4	
(20) Economic Pressure	7	0	
(21) Flooding	8	2	
(22) Water Quality	9	6	
(23) Water Shortage Potential	10	0	

WRC SUB-SUB-DIVISION 1BR

Priority Considerations	Maximum Available Points	Existing Stations 01W	Proposed Stations P1W
A. Site Characteristics			
(1) Mean Annual Flow	6	2	2
(2) Water Level Only	3	-	-
(3) Quality of Record	15	12	12
(4) Period of Record	10	3	10
(5) Proximity to Climate Station	5	4	1
B. Client Needs			
(I) Regional Hydrology:			
(6) Minimum Natural Flow Network	9/0	0	0
(7) Regional Hydrology Priority Code	9	6	7
(8) Long Term Index Monitoring	8	0	0
(9) Special Regional Hydrology Needs	10	8	10
(10) Client Priority	10	2	2
(a) water supply (10)		(0)	(0)
(b) other infrastructure (8)		(0)	(0)
(c) flooding (6)		(0)	(0)
(d) environmental impact (8)		(0)	(0)
(e) fisheries (6)		(4)	(4)
(f) energy (8)		(4)	(4)
(g) navigation and recreation (5)		(0)	(0)
(11) Serves Operational and Regional Hydrology Needs	12/0	0	0
II - Operational (regulated/site specific)			
(12) Federal Formal Commitments	10	0	0
(13) Provincial Formal Commitments	10	0	0
(14) Client Priority	10	0	0
(a) water supply (8)		(0)	(0)
(b) other infrastructure (5)		(0)	(0)
(c) flooding (9)		(0)	(0)
(d) environmental impact (7)		(0)	(0)
(e) fisheries (7)		(0)	(0)
(f) energy (8)		(0)	(0)
(g) navigation and recreation (5)		(0)	(0)
C. Regional Importance of Resource			
(15) Population Density	5	2	2
(16) Municipal Water Use	9	1	1
(17) Industrial Water Use	9	0	0
(18) Fisheries Priority	8	3	3
(19) Hydro Potential	8	0	0
(20) Economic Pressure	7	1	1
(21) Flooding	8	0	0
(22) Water Quality	9	2	2
(23) Water Shortage Potential	10	2	2

WSC SUB-SUB-DIVISION 1BB

Priority Considerations	Maximum Available Points	Existing Stations OLW	Proposed Stations
A. Site Characteristics			
(1) Mean Annual Flow	6	2	
(2) Water Level Only	3	-	
(3) Quality of Record	15	12	
(4) Period of Record	10	3	
(5) Proximity to Climate Station	5	1	
B. Client Needs			
(I) Regional Hydrology:			
(6) Minimum Natural Flow Network	9/0	9	
(7) Regional Hydrology Priority Code	9	4	
(8) Long Term Index Monitoring	8	0	
(9) Special Regional Hydrology Needs	10	9	
(10) Client Priority	10	1	
(a) water supply (10)		(0)	
(b) other infrastructure (8)		(4)	
(c) flooding (6)		(0)	
(d) environmental impact (7)		(0)	
(e) fisheries (6)		(0)	
(f) energy (8)		(0)	
(g) navigation and recreation (5)		(0)	
(11) Serves Operational and Regional Hydrology Needs	12/0	0	
II - Operational (regulated/site specific)			
(12) Federal Formal Commitments	10	0	
(13) Provincial Formal Commitments	10	0	
(14) Client Priority	10	0	
(a) water supply (8)		(0)	
(b) other infrastructure (5)		(0)	
(c) flooding (9)		(0)	
(d) environmental impact (8)		(0)	
(e) fisheries (7)		(0)	
(f) energy (8)		(0)	
(g) navigation and recreation (5)		(0)	
C. Regional Importance of Resource			
(15) Population Density	5	3	
(16) Municipal Water Use	9	2	
(17) Industrial Water Use	9	1	
(18) Fisheries Priority	8	2	
(19) Hydro Potential	8	0	
(20) Economic Pressure	7	1	
(21) Flooding	8	0	
(22) Water Quality	9	2	
(23) Water Shortage Potential	10	3	

WSC SUB-SUB-DIVISION 1BT

Priority Considerations	Maximum Available Points	Existing Stations 01W	Proposed Stations P1W
A. Site Characteristics			
(1) Mean Annual Flow	6	2	2
(2) Water Level Only	3	-	-
(3) Quality of Record	15	8	9
(4) Period of Record	10	10	10
(5) Proximity to Climate Station	5	0	1
B. Client Needs			
(I) Regional Hydrology:			
(6) Minimum Natural Flow Network	9/0	9	0
(7) Regional Hydrology Priority Code	9	3	7
(8) Long Term Index Monitoring	8	0	0
(9) Special Regional Hydrology Needs	10	10	10
(10) Client Priority	10	0	1
(a) water supply (10)		(0)	(0)
(b) other infrastructure (8)		(0)	(0)
(c) flooding (6)		(0)	(0)
(d) environmental impact (7)		(0)	(0)
(e) fisheries (6)		(0)	(0)
(f) energy (8)		(0)	(0)
(g) navigation and recreation (5)		(0)	(3)
(11) Serves Operational and Regional Hydrology Needs	12/0	0	0
II - Operational (regulated/site specific)			
(12) Federal Formal Commitments	10	0	0
(13) Provincial Formal Commitments	10	0	0
(14) Client Priority	10	0	0
(a) water supply (8)		(0)	(0)
(b) other infrastructure (5)		(0)	(0)
(c) flooding (9)		(0)	(0)
(d) environmental impact (8)		(0)	(0)
(e) fisheries (7)		(0)	(0)
(f) energy (8)		(0)	(0)
(g) navigation and recreation (5)		(0)	(0)
C. Regional Importance of Resource			
(15) Population Density	5	4	4
(16) Municipal Water Use	9	3	3
(17) Industrial Water Use	9	1	1
(18) Fisheries Priority	8	2	2
(19) Hydro Potential	8	0	0
(20) Economic Pressure	7	1	1
(21) Flooding	8	3	3
(22) Water Quality	9	1	1
(23) Water Shortage Potential	10	4	4

WRC SUB-SUB-DIVISION 1BU

Priority Considerations	Maximum Available Points	Existing Stations 02M	03M	Proposed Stations P1M
A. Site Characteristics				
(1) Mean Annual Flow	6	2	2	2
(2) Water Level Only	3	-	-	-
(3) Quality of Record	15	10	11	10
(4) Period of Record	10	7	3	10
(5) Proximity to Climate Station	5	2	5	3
B. Client Needs				
(I) Regional Hydrology:				
(6) Minimum Natural Flow Network	9/0	9	9	0
(7) Regional Hydrology Priority Code	9	5	6	7
(8) Long Term Index Monitoring	8	0	0	0
(9) Special Regional Hydrology Needs	10	6	8	8
(10) Client Priority	10	3	2	1
(a) water supply (10)		(5)	(10)	(0)
(b) other infrastructure (8)		(6)	(0)	(0)
(c) flooding (6)		(1)	(0)	(4)
(d) environmental impact (7)		(0)	(0)	(0)
(e) fisheries (6)		(5)	(0)	(0)
(f) energy (8)		(0)	(0)	(0)
(g) navigation and recreation (5)		(0)	(0)	(0)
(11) Serves Operational and Regional Hydrology Needs	12/0	0	12	0
II - Operational (regulated/site specific)				
(12) Federal Formal Commitments	10	0	0	0
(13) Provincial Formal Commitments	10	0	0	0
(14) Client Priority	10	0	2	0
(a) water supply (8)		(0)	(8)	(0)
(b) other infrastructure (5)		(0)	(0)	(0)
(c) flooding (9)		(0)	(0)	(0)
(d) environmental impact (8)		(0)	(0)	(0)
(e) fisheries (7)		(0)	(0)	(0)
(f) energy (8)		(0)	(0)	(0)
(g) navigation and recreation (5)		(0)	(0)	(0)
C. Regional Importance of Resource				
(15) Population Density	5	5	5	4
(16) Municipal Water Use	9	5	5	5
(17) Industrial Water Use	9	1	1	1
(18) Fisheries Priority	8	2	2	2
(19) Hydro Potential	8	0	0	0
(20) Economic Pressure	7	5	5	5
(21) Flooding	8	2	2	2
(22) Water Quality	9	6	6	6
(23) Water Shortage Potential	10	5	5	5

WSC SUB-SUB-DIVISION 1BY

Priority Considerations	Maximum Available Points	Existing Stations 04M	Proposed Stations P1M	P2M	P3M
A. Site Characteristics					
(1) Mean Annual Flow	6	2	2	2	2
(2) Water Level Only	3	-	-	-	-
(3) Quality of Record	15	9	8	9	10
(4) Period of Record	10	3	10	10	10
(5) Proximity to Climate Station	5	5	0	1	3
B. Client Needs					
(I) Regional Hydrology:					
(6) Minimum Natural Flow Network	9/0	9	9	9	0
(7) Regional Hydrology Priority Code	9	7	7	7	7
(8) Long Term Index Monitoring	8	0	0	0	0
(9) Special Regional Hydrology Needs	10	9	0	10	10
(10) Client Priority	10	4	0	2	1
(a) water supply (10)		(5)	(0)	(10)	(0)
(b) other infrastructure (8)		(0)	(0)	(0)	(0)
(c) flooding (6)		(0)	(0)	(1)	(0)
(d) environmental impact (7)		(4)	(0)	(0)	(0)
(e) fisheries (6)		(4)	(0)	(0)	(3)
(f) energy (8)		(0)	(0)	(0)	(0)
(g) navigation and recreation (5)		(5)	(0)	(0)	(0)
(11) Serves Operational and Regional Hydrology Needs	12/0	0	0	0	0
II - Operational (regulated/site specific)					
(12) Federal Formal Commitments	10	0	0	0	0
(13) Provincial Formal Commitments	10	0	0	0	0
(14) Client Priority	10	0	0	0	0
(a) water supply (8)		(0)	(0)	(0)	(0)
(b) other infrastructure (5)		(0)	(0)	(0)	(0)
(c) flooding (9)		(0)	(0)	(0)	(0)
(d) environmental impact (8)		(0)	(0)	(0)	(0)
(e) fisheries (7)		(0)	(0)	(0)	(0)
(f) energy (8)		(0)	(0)	(0)	(0)
(g) navigation and recreation (5)		(0)	(0)	(0)	(0)
C. Regional Importance of Resource					
(15) Population Density	5	1	1	1	1
(16) Municipal Water Use	9	0	0	9	0
(17) Industrial Water Use	9	0	0	9	0
(18) Fisheries Priority	8	3	3	3	3
(19) Hydro Potential	8	0	0	0	0
(20) Economic Pressure	7	0	0	0	0
(21) Flooding	8	0	0	0	0
(22) Water Quality	9	1	1	1	1
(23) Water Shortage Potential	10	0	0	3	0